AMERICAN BEE JOURNAL

Vol. LXXIII—No. 9 Hamilton, Illinois, September, 1933 Monthly, $1.00 a Year

Ripe Honey

By H. F. Wilson and E. C. Alfonsus
Department of Economic Entomology, University of Wisconsin.

THIS term is commonly used by beekeepers to designate honey that remains in good condition from the time it is extracted until it reaches the consumer.

Unripe honey may be defined as nectar that has not been completely processed by the bee. But, if honey ferments at any time after it is extracted, even though it comes from completely sealed combs, we conclude that it was not well ripened by the bee or has absorbed moisture between the time when it was extracted and the time when it was put in closed containers.

Honey from all sources must vary in its perfection according to the circumstances under which it is processed by the bee, and further, to the extent of manipulation by the bees, before the honey is sealed. Sealed or unsealed, all honey is ripe in the beehive when there are enough bees to take care of it.

The abundance of nectar and rapidity with which it is stored has a decided effect upon the moisture content of sealed honey. If the honeyflow is rapid it is quite likely to have a comparatively high moisture content. If it is slow, the moisture content will be comparatively low. If the combs in each case are completely sealed, all the honey is ripe according to our present determination of ripe honey. We do not ordinarily pay any attention to the moisture content of comb honey because under the conditions of storage at fairly warm temperatures comb honey does not crystallize rapidly and therefore does not ferment.

But honey frequently starts to ferment in completely sealed combs. So how are we to determine the degree of ripeness in honey? May we accept the standard of the honeybee, or shall we attempt to set our own standard on the basis of moisture content or weight?

Honey is a sweet, viscid substance, produced by bees from the nectar of flowers. Its flavor and color are derived from the nectar and vary with the floral source from which the nectar is taken. So-called "impure" honey may be produced from sugar syrup, fruit juices, and from honeydew of plant or insect origin.

The nectar which the bees collect from flowers consists of a dilute sugar solution which becomes more highly concentrated as it is processed by the bee and the original sugar is changed to invert sugar, a mixture of levulose and dextrose sugars. Normal honeys contain from 15 to 19 percent moisture, and may weigh from eleven and a half to twelve pounds; maybe more in unusual cases.

Beekeepers have learned by experience that honey extracted during the first two or three weeks of the honeyflow is usually quite thin and more likely to ferment than honey extracted later in the season. As a result of these observations whenever fermentation occurs in a package of honey, the beekeeper immediately comes to the conclusion that the honey was extracted before the combs were fully sealed. We also know that unsealed honey may remain in combs in the beehive for a long time without fermenting and also that similar combs may be stored through the winter and be in good condition the following spring.

In a warm, dry climate, honey can be extracted before it is sealed, and will ripen as though the bees had completely processed it. Even in a humid climate like that of Wisconsin, during unusual dry seasons, thin honey will thicken during high temperatures.

Honey extracted during the first week of the honeyflow, and so thin that it runs out of the comb when tilted, may be kept for months without fermentation. Therefore, there must be conditions other than moisture that influence the ripeness of honey.

On the basis of observations made with honey produced in the apiary of the University of Wisconsin and from samples received from other sources, we can say that honey produced in the clover belt of the north is always subject to fermentation when subjected to certain temperature conditions.

Fermentation in honey is caused by yeasts. Yeasts get most of their food from sugars. Many kinds of yeasts occur in nature wherever sugar is found. They are particularly abundant in and about the bee yard. Special yeasts are found in honey, and it is almost impossible to find a sample of honey from any region that does not contain yeast spores which can develop and produce fermentation when conditions are favorable.

The yeasts that cause fermentation in honey are of a special type that are capable of fermenting highly concentrated sugar solutions, and in our experience we have had only three samples that did not ferment when placed under temperature conditions most favorable for fermentation.

The moisture content of normal well ripened honeys has so far not shown a special relation to the occurrence of fermentation while temperature has shown a very definite relation and may be given as the important factor. The most peculiar condition is found, in that normal honeys must crystallize before fermentation can take place. In the process of crystallization the moisture content of the liquid portion of a sample of honey becomes higher than in the bottom part, and the liquid portion between the crystals is diluted so that the yeasts are able to grow and therefore fermentation always starts at the top.

The record of a given series of samples taken from our apiary during any one season is interesting and

the 1932 samples show very definitely what may be expected to happen in the way of fermentation according to the treatment of the honey after it is extracted.

Eleven different samples of honey were taken from the University Apiary in 1932, as shown in the following table:

1932 SAMPLES FROM UNIVERSITY APIARY RECORD MADE APRIL 1, 1933

Sample	Date Extracted	Extent of Capping on Comb	Moisture Content %	Temperature 40° F.	Temperature 60° F.	Temperature 75° F.
1	June 24	Completely uncapped	18.57	No fermentation	Crystallized Fermented	Only a few crystals at bottom
2	June 30	One-fourth capped	17.89	No fermentation	Crystallized Fermented	Only a few crystals at bottom
3	July 8	One-half capped	19.26	No fermentation	Crystallized Fermented	One-fourth crystallized
4	July 15	Three-fourths capped	17.80	No fermentation	One inch liquid at top —no fermentation	One-fourth crystallized
5	July 22	Completely capped	17.80	No fermentation	Upper one-third liquid —no fermentation	One-fourth crystallized
6	July 29	Completely capped	15.18	No fermentation	Upper one-third liquid —no fermentation	Floculent crystals throughout
7	Aug. 5	Completely capped	16.22	No fermentation	Crystallized unfermented	Almost solid fine crystals
8	Aug. 12	Completely capped	16.52	No fermentation	Crystallized fermented	Beginning to crystallize
9	Aug. 19	Completely capped	16.34	No fermentation	Crystallized fermented	Semi-solid crystallization
10	Aug. 26	Completely capped	16.40	No fermentation	Crystallized fermented	Semi-solid crystallization
11	Oct. 10	Completely capped	16.52	No fermentation	Crystallized fermented	Solid crystallization

The samples were taken at weekly intervals up to Aug. 26, and the last sample was extracted on October 10. Then these samples in sealed glass jars were put into constant temperature chambers at 40, 60 and 75 degrees Fahrenheit. The moisture content of each sample was also obtained to learn whether or not it would have any relation to fermentation.

The honey yeasts so far observed cannot grow at temperatures below 50° F., so no fermentation was expected in the samples in the 40° F. chamber. The important differences occurred between the 60° F. chamber and the 75° F. chamber. In the sixty degree chamber, sample number one began to ferment even before the honey was thoroughly crystallized; samples number 2 and 3 crystallized quickly and were tainted within three months. Samples four, five and six had not yet completely crystallized on April 1, 1933, and showed no signs of fermentation. Sample seven crystallized but not fermented. Samples eight to eleven all extracted from fully capped combs, were crystallized by January 1 and were starting to ferment by April 1, 1933.

In the 75° chamber, none of the samples had crystallized solid by April 1, and no fermentation had occurred.

Samples 5 to 11 can be called normal honeys because they all came from fully capped combs. The moisture content of these samples is close to the average for normal honeys. However, honey that is extracted from partially sealed combs during the first two weeks of any honeyflow is likely to have a higher moisture content than at a later period, and probably has not been thoroughly processed by the bees. Such honey may be called unripe.

We can, however, conclude that the moisture content of honey is not a true indication of its keeping qualities, and that the ripeness of honey cannot be determined by whether or not it ferments.

Luxury Production Pays

By R. B. Manley
England

Referring to my contribution in February "Where is the Money for Your Honey?" allow me to point out an error in the second column, the fifth line, where "quantity of **honey**" should be "quantity of **money.**" It is obvious that this is either an error in typescript or the printer's error, but it is well to point it out as it is vital to the sense.

In this article, I did not intend to say that honey is a luxury, but I did intend to say that it is luxury production that pays under present conditions of society, and so the beekeeper who can present a special class of honey of limited supply like Scottish Heather, English clover, honey of Hymettus and so on, will have a better chance to make a decent price than he who simply calls his product "honey."

If Americans are going to continue the production of an enormous bulk of cheap honey while the purchasing power to buy it is not in the pockets of those who would consume it, honey must continue a drug on the market and the time is not far distant when we will hear of honey being destroyed to get rid of it, just as they are destroying coffee in Brazil and livestock in South America. In my paper yesterday, it is reported that sixty thousand sheep have just been killed and the carcasses destroyed in South America because they were not salable; **not because there are no hungry people.**

America is the greatest honey producer in the world. Her honey is sold everywhere. English shops are full of it. People buy it who cannot afford English or New Zealand, but it is doubtful if there is room for much more. Besides, other nations cannot possibly buy from America and pay their war debt at the same time.

Apart from all this, we have the spectacle of one great country, U. S. S. R. starting a vast scheme of honey production as a part of its second five-year plan; a continuation of the first five-year plan which was so successful that it was able to be closed at the end of four years.

What will be done with this Russian honey? Russian honey comes to England now in small quantites and it is certain that the increased production will be exported at first at any price it will bring to enable the Russians to obtain foreign money with which to buy machinery and plants to complete industrialization of their country.

After that no doubt the Russian Union will be content to consume the production of their own fields and factories and workshops, for in a non-capitalist community there is no inducement to invest capital abroad, and the general population share the products of the country equally (at least in theory) while, in a capitalist state, the whole object of the capitalist is to consume as little as possible at home and export as much as possible on credit to build up claims against foreign countries for annual interest.

That is why Americans cannot sell honey at home at a profit worth anything. Your people do not have the share of their own production that they should have for it is taken from them and capitalized abroad. Put money into the pockets of your consumers instead of into foreign loans and you will soon have a good market for your honey and for everything else.

How Much Do They Suffer?

By A. Wm. Bowman
Saskatchewan

I have just read Mr. Meuret's "Plea for Mercy" and it is surely a harrowing tale, unfortunately it does not give the true facts of the business of killing bees in the fall.

The claim that the bees would only consume twenty pounds of stores would be all right if they wintered 100% but, how about the 50% that die during our long and severe winters? They also consume at least 20 pounds of stores for they usually hang on until spring.

So that's 40 pounds per surviving colony, then there is another 30 pounds to add to that because the man that makes a business of killing off his bees destroys the queen at the beginning of August to stop brood rearing. The honey and pollen that would be used to raise this brood is stored in the brood combs and makes the best of places on which to put a package of bees in the spring, so your package bees don't need feeding, whereas you would have to leave your overwintered colony at least an extra 30 pounds for spring use.

Now 70 pounds of honey at 10c wholesale (I get 12½c from the grocers and I never have enough honey) will buy at least two packages of bees, so why winter them?

With regard to the terrible suffering of the bees, it is doubtful if any beekeeper who makes a business of killing off in the fall uses a sulphur pit. A teaspoonful of cyanogas in the entrance at night and all is over in a few minutes without any of the suffering conjured up by Mr. Meuret's imagination.

Anyway, how about the suffering of the bees that do not survive the winter? These poor bloated bees are in actual pain in the spring when they roll from the hives distended nearly to the bursting point and they don't suffer for just a few minutes either.

Canadian Figures

The July number of "Agricultural and Industrial Progress in Canada," a monthly review published by the Department of Immigration of the Canadian Pacific Railway gives interesting figures on the production of honey in Canada.

Ontario is the chief honey producing province with Manitoba second and Quebec third. Manitoba shows the biggest advance in honey production among the provinces both in the census returns and in the annual estimates of the Provincial Departments of Agriculture.

There was an increase of over 175 per cent in the honey produced on Canadian farms between the last two censuses. Total production on farms in the Dominion in 1920 was 4,937,055 pounds, while at the last census for 1930, the output had risen to 13,666,534 pounds. The production of honey on farms in Ontario in 1930 was 7,925,824 pounds compared with 3,146,198 pounds in 1920.

During the decade Quebec advanced from 1,559,885 pounds to 3,259,796 pounds; Manitoba from 66,047 pounds to 1,475,225 pounds; and British Columbia from 105,200 pounds to 345,411 pounds. In Saskatchewan the advance for the decade was from 4,523 pounds to 284,538 pounds; Alberta from 7,274 pounds to 284,036; New Brunswick from 26,211 pounds to 48,787 pounds; Nova Scotia from 19,362 pounds to 34,693 pounds and Prince Edward Island from 2,355 pounds to 8,224 pounds.

The annual estimate for 1932 gives the total production of honey for the Dominion as 20,628,934 pounds. Canada exports about one tenth of her honey, the total export in 1932 being 2,298,350 pounds most of which went to the United Kingdom.

THE HUMAN PUZZLE--Who Is He?

The subject of this month's Human Puzzle has figured in beekeeping circles for many years and has been an active leader in both national and state affairs. He is a Master Beekeeper, so honored by his state University. Isn't that enough information to get you started? Get out the postcard and make a guess. Remember, a nice beekeeping book to the first three correct guesses.

The August "Who Is He?"

None other than Father Francis Jager, formerly Professor of Apiculture at the University of Minnesota, and one of the largest of Minnesota's beekeepers, residing at St. Bonifacius. The picture shows him at his favorite occupation, among the bees.

The first three correct guesses, receivers of the books on bees, were: J. E. Ekstam, Laurens, Iowa; Dr. R. L. Parker, Manhattan, Kansas; Orville B. Rogers, Newell, Iowa. Guesses came from Iowa, Kansas, Indiana, Illinois, Minnesota, Wisconsin, Ohio, New York, and Nebraska.

There was only one incorrect guess. W. H. Eastman, Kansas, mistook Father Jager for Geo. S. DeMuth, Editor of "Gleanings in Bee Culture." We'll let Mr. DeMuth and Father Jager fight it out.

Cellar Wintering

In our August issue, page 312, Mr. Fred W. Lesser criticizes the editorial in our January number, page 11, where in speaking of cellar wintering, we spoke of the degree of warmth necessary in a cellar where bees are kept in winter. We stated there that it is better to have a cellar too dry than too wet. Mr. Lesser states that ventilation is of importance. We agree with him and wish to emphasize the need of giving each colony ventilation. We made it a custom to remove entirely the bottom board and the cover of each hive, piling them up in tiers of 5 or 6, with only a straw mat or an oilcloth between the clusters. In this way the bees will keep quiet in a cellar. But we insist on dry air. There may be water in the cellar, but the bees should be kept from mould. A cellar may have moisture in it, this will do little damage if the air is dry.

To prevent drifting, when taking the bees out of the cellar, we should put them back upon the stand which they occupied in the fall. To do this, all that is necessary is to leave the cap or cover on the old stand with the number of the colony marked upon it. We are sure, then to return the hive to its old stand. Some people think that the bees do not remember their location after four months of winter confinement but that is an error. We have had clear proof that many of the old bees remember the spot and that is one cause of drifting.

We have already explained how we found out that bees would remember the spot, but it may be advisable to mention it again.

Mr. Charles Dadant was a great observer and it was through him that this was noticed. We had hives of two sizes in the apiary and in order that we might handle them better, we had each different kind on one side of the apiary. During the previous summer we had hived two swarms in the American style of hives but had left them on the Dadant frame side of the apiary. After winter we concluded to return these two colonies to the American side of the apiary. In the afternoon following the removal of the bees from the cellar, Mr. Charles Dadant, making his usual observations in the apiary, reported that there were bees hovering about, as if lost, in two spots. Investigation proved that it was bees from those two colonies who were looking for their old stand. We took the two hives back to the other side of the apiary and had the pleasure of seeing those bees recognize their hives and enter them with delight. Moving them again that night to the other side, we had no more trouble. The bewilderment they had suffered evidently caused them to look up their location in the morning before they flew to much distance.

That is how we found out that bees (old bees) remember their location after a whole winter in the cellar.

Intensive Beekeeping and the Rearing of Queens

Here is a book in the French language which has reached its fourth edition. It is by that experienced beekeeper, Perret-Maisonneuve, a man who has made beekeeping a hobby.

The author has recognized what we all know, but do not emphasize, the fact that, all things being otherwise equal, the success of a colony depends upon the value of its queen. Take two colonies of equal strength and with similar opportunities, one of them may achieve success and harvest a large crop, while the other barely makes enough to live through. The queen is the explanation. Good queens are important, indispensable. Mr. Perret-Maisonneuve has noticed it, so he places the emphasis of good beekeeping on the rearing of good queens. His book is full of suggestions and methods for the rearing of the best queens. He lives in a country where queen-rearing is not as common as it is here.

But we must follow his suggestions and our breeders must rear GOOD queens. Rearing cheap queens does not solve the problem, they must be as good as the best. And then we must watch our bees and whenever a queen shows signs of failing, we must replace her without hesitating, for, all other things being equal, the success of a colony depends upon the value of its queen.

Winter Is Coming

With the arrival of August we begin to realize that the high tide of summer is past and that winter will soon be with us again. It is not too soon for the beekeeper to think of his winter preparation. Much of that lies in so manipulating his colonies that the end of the season will find the brood chambers full of honey and a liberal cluster of young bees.

In many localities there is still some surplus honey to be harvested, but the time is short at best until the cool nights will put an end to the honeyflow. After the flow is over and weather is cold, it is difficult to provide such conditions as can now easily be secured. While enough super room should still be provided to care for the crop, it is better to avoid too much room and a scattering of the stores. The end of the flow often finds a little honey in several supers, none of which are full.

Late feeding is often necessary, but it should be avoided as far as possible. Where the quality of the late honey is poor it may be advisable to extract it and feed the bees on sugar syrup. This should be done as quickly as possible after the close of the flow to avoid undue tax on the bees in evaporating it.

The forehanded beekeeper, by proper attention, now can avoid much extra labor in September and October and yet have his bees in better shape for winter.

Reducing Cost of Inspection

From Colorado comes an interesting circular which explains the way they are able to continue inspection with reduced funds. Inspector R. G. Richmond has worked out a plan whereby beekeepers in the region give of their time to assist with the work. A crew of five men work together. The first smokes the bees and opens the hives. The next two remove frames and hand them to the inspector and then return them to the hives. The last man closes the hives and leaves everything as it should be. In this way it is possible to examine an entire apiary in a very short time. Since each individual beekeeper gives but a small amount of time there is no hardship on anybody and yet the work goes forward efficiently. By this means it is possible for the inspector to examine a great many more bees than would otherwise be possible. Instead of curtailing inspection and permitting the work to suffer from lack of funds, local beekeepers cooperate to carry on. Instead of spending so much of his time in smoking bees, opening hives and closing them again, the inspector does nothing but examine the combs as they are brought to him. Local beemen do the rest. The Colorado plan is worthy of study in other places where funds are reduced.

Higher Prices

With a general advance in prices of food stuffs and raw materials the beekeeper should get more for his honey. With no established market, the retail price is likely to be whatever the beekeeper is willing to take. Many set too low a figure on the product of their labor and make it difficult for others to secure a fair price.

Use for Propolis

According to some of the old writers a preparation of propolis, beeswax and linseed oil was formerly used to protect wood from the effects of moisture. Propolis apparently left a glaze which resisted water very effectively. In some European countries where labor is cheap there is a market for propolis but in this country the amount available is so small that few are willing to take the necessary time to gather a sufficient quantity to serve a commercial purpose. If propolis was available in abundance it might fill a place in the preparation of products useful in resisting moisture.

Change of Attitude

When the World's Fair was held in Chicago forty years ago there was great activity among the beekeepers in the preparation of exhibits for the event. Months before the exposition opened, committees were appointed to represent the various organizations and an effort was made to get the best honey from the various states. The plan was to interest as many beemen as possible to send their best product.

The Century of Progress Exposition in the same city is drawing to a close with no special interest manifested within the industry. Such exhibits as there are were prepared by or under the direction of the exposition authorities and beekeepers generally have had no information as to what was going on. Instead of a cooperative effort of the industry we see the exhibit assembled by the exposition. Perhaps the showing is as good or better but the enthusiasm generated in gathering the material was good for the industry. Beekeepers no longer seem to be able to work together successfully for any enterprise of national scope. Even the Honey Institute receives the support of but a comparatively small number.

Underselling

The system under which honey is sold seems to be the reverse of the auction. When goods are sold at auction the highest bidder takes them. Honey buyers reverse the plan and get each producer to bid against his neighbor as to who will sell at the lowest figure. The result is ruinously low prices. Carlot sales rarely occur except at sacrifice figures. The buyer asking for quotations mentions the lowest price which has been quoted and the beekeeper offers to take less in the hope of making a sale. His quotation in turn is used to get a still lower one elsewhere.

Until this system of marketing is improved there is little hope of satisfactory prices. Honey is not a perishable commodity and if beekeepers were able to cooperate there need be no trouble in getting a fair price. Just how this difficulty is to be remedied is not easy to see.

Price stabilization would be to the advantage of the trade as well as to the beekeepers. Some dealers dislike to handle honey because of the uncertainty concerning prices. Unless they buy below the market they are in danger of losing their profit through underselling.

Overheating Honey

More care should be given in heating honey in preparation for bottling. One sees evidence of heat damage on too many grocers' shelves and at times it may be seen in the product of the large bottling concerns. Too much heat not only darkens the honey but it injures the delicate flavor and destroys the peculiar qualities which distinguish it from ordinary syrups. Since a temperature of 140 degrees is sufficient to prevent fermentation it is a mistake to use a high degree of heat for honey.

Market Problems

The price of our products in the market depends more upon the consumers' ability to buy than upon the supply. To destroy part of the visible supply of grain and cotton may raise prices because of a shortage but it certainly will not increase the consumers' ability to buy. The wealth of the nation is measured in goods and not in money. Cotton and corn, wheat and honey represent wealth. The measure of our security is the amount of our surplus. To destroy our surplus in an effort to raise prices, at a time when so large a part of the world's population is hungry is the height of folly.

If we are to find permanent relief for economic difficulties it must come through increase in buying power. Give the world's hungry population the means to buy and our food surplus will quickly disappear.

In the days before farmers became burdened with debt there was no worry about surplus even though prices were low. Grain remained in the bin until a year of short crops made a market at a satisfactory price. The senior editor of this magazine has kept honey in barrels for several years awaiting a rise in price. Without a surplus there would be serious want when the lean years come.

Light vs. Dark Honey

It is to be hoped that the work so well begun by Doctor Schuette on the color value of honey will be continued until the numerous problems are cleared up. Great interest attaches to his statements that buckwheat honey contains twenty times as much manganese as alfalfa honey and five times as much copper. When he found that on the average dark honeys contained twice as much copper and four times as much iron as light honeys he gave the producer of dark honey facts of unusual importance.

Much research is necessary before we fully understand the full effect of these minute quantities of mineral matter in the diet but enough is known to demonstrate that they are of far more importance than has been realized.

As has been stated in these columns before, we believe that when the facts are known there will be a greatly increased demand for honey. It begins to look now as though the dark honey might command a premium instead of selling at a lower price as has been the case in the past. When honey sells on the merit of its chemical composition rather than its appearance and flavor market demand may be somewhat readjusted.

We have every reason to expect that within a few years the physician will prescribe foods for his patient which will contain the particular minerals which his condition demands. In fact such is already the case as far as knowledge permits. The public health promises to be greatly improved as a result of such studies as those of Doctor Schuette.

Institute Support

Institutions which depend upon free will offerings seldom enjoy prosperity for long at a time. When by dint of much agitation they do secure adequate funds, they are soon consumed and the need is as great as ever again. The Honey Institute can never serve the beekeepers to the best advantage until some plan of financing is worked out which will insure a regular and dependable income. If support comes only from donations there is no assurance that they will be available a few weeks hence.

If it were possible to work out a five year plan by which a large number of beekeepers would agree to pay a dollar per ton for the honey they harvest during that period, all would be lovely. There should be a feeling of personal responsibility on the part of the supporters to pay a definite sum at a definite time. Only in this way is it possible to balance the budget and carry on successfully.

If the industry would raise a budget of fifty thousand dollars per year it would be possible to undertake aggressive work on such a scale as to bring untold benefits to honey producers. If all small beekeepers would subscribe a dollar each per year and the commercial beemen would pay the dollar per ton for their crop, funds available would be many times that amount. What is needed now is an aggressive organizer who is able to get enough agreements signed to provide the funds. Under the capable leadership of Doctor Barnard the foundation has been laid for a prosperous industry but it will take money to make it succeed.

Allen and Jay make a show here to indicate that the hatchet is buried, but they left the handle still sticking out.

Some More Queen Rearing Bosh

By Jay Smith
Indiana

MY good friend, Allen Latham, takes exception to several statements in my articles on Queen Rearing on page 51. Say, Allen, when I visited you a few years ago, didn't we bury the hatchets? Of course by common consent we left the handles sticking out where they would be handy, but I believe you fudged on me and left yours on top of the ground for you are using it on me again. Well, honest opinions, although they do not agree with mine, are always welcome and when you think what I write is "Bosh," I like to have you say it. Knowing you as I do, I know you to be a good sport and will take no offense if I reply in kind, for after reading your article on page 205 I do not believe I have a monopoly on "Bosh." When you state that Nature fired a blank cartridge when she made the wild crab, you are speaking from man's standpoint and not from Nature's. The wild crab had in it every conceivable color and flavor in a dormant state waiting to be brought out by man and is a 100% perfect apple from Nature's standpoint as is every other of Nature's (or God's) productions. However that is a problem in plant breeding and is not in the most remote way related to the subject we are discussing which is one of feeding. I deny that man has ever improved on Nature when it comes to feeding the young, but invariably when man has made a change it has been for the worse. You are right when you say it may be more expensive to get the queen to lay in the cells and that grafting is less expensive. I have maintained that grafting is a cheap method. I have used it over thirty years, have experimented a great deal with it and have watched others using it and the more I see of it the more I am convinced that it leaves much to be desired when quality is considered. It is not Nature's way, which is the same as saying it is not the best way. Over 25 years ago I experimented with a method suggested by Eugene Pratt but could not make it practical and know of no one who did or who used it in more than an experimental way. I will never forget a shock I once received when rearing queens. I had been giving some colonies frames of brood and bees till they were built up to tremendous strength. One of them swarmed just as we were holding a beekeepers' meeting and some of the party weighed the swarm and found it weighed 25 pounds. I had a number of cells being built in this colony and was proud of them. However the colony built a few of their own below the excluder and theirs built from the egg were fully fifty percent longer than mine and had a quarter of an inch of unused jelly in them. That convinced me, if I needed convincing, that Nature knows how to produce better queen cells.

So Allen, I wish most emphatically to disagree with you when you intimate that mere man can rear better queens than are reared under the swarming impulse. Mind you, I am not speaking of the stock, but the all-around quality and perfect development of the queen, supposing the stock to be the same. You ask, "How long are we to be deluded?" Forever, I hope. "Will this fetish ever die?" If it does I hope I precede it. You say, "Here and now at the risk of much censure I declare that the idea that queens reared by the bees themselves under the swarm fever are extra fine **is all wrong.**" I agree with you that you are running a risk and a big risk of much censure for a statement like that and yet you accuse me of writing "Bosh." If that it not bosh I am no bosh judge. I believe if we could have a show of hands of beekeepers who have made a careful study of the subject, ninety-nine out of a hundred would say that queens reared under the swarming impulse are 100% normal. Personally I have never seen or directly heard of a poor queen being thus reared. My experience has made me believe that Nature does not put that lot of jelly in the cells just for the fun of the thing. I never intended to convey the thought that an extra amount of jelly in the cells will produce an extra long lived queen. All this extra amount of jelly can do is to produce a normal queen. But any skimping of this food will produce a dwarfed, underdeveloped queen that will soon be superseded by the bees, and although Allen says superseded queens are inferior, the bees seem to prefer them to the ones that were reared by the grafting method where food is taken away from them instead of given more as in swarming or supersedure. Now, Allen, all power to you when you propose to teach Nature how to do Her stuff but as for me I prefer to be a humble student of Nature and be taught by Her. In the swarm you mentioned where perhaps one queen would be good and the other nine inferior; well that was kind of you to give Nature credit of hitting it right once in ten times! Honest now Allen aren't such teachings bosh or would they come under the head of bunk or just plain hooey?

You say that you doubt if many beekeepers are cognizant of the fact that a queen's eggs are not all the same. Right you are. At least I am not. Of course when it comes right down to perfection, no two of anything are alike, but from the point of a practical queen breeder I dread to think that the time may come when it will be necessary for me to candle the queen's eggs to know whether or not they are suitable for rearing queens.

As to the relation between molting and grafting, I fail to see the point as the larva is supposed to begin molting when half a day old and finishes up the fifth molt after it is capped over. Believe I must get them before they molt at all for I have never noticed any pinfeathers on them and as to grafting when they are at rest, I never had to chase them

around the cell more than three times.

Now Allen, since we have dug up those hatchets I am spitting on my hands getting ready for one last chop and here it is. You state you use larvae of an age slightly under three days. That nearly knocked me cold. I like larvae of that age—when I go fishing but not for queen rearing. I have tried such in an experimental way and never could rear a queen worth a cent. Some of them refused to be queens but became workers instead and turned the cells at right angles like worker cells. And why not as the bees begin making workers out of larvae when two days old? Now for a moment let us turn to scientists who have put those things to the acid test and know whereof they speak. It is their business to know such things. Turn to page 172 of that delightful book by Snodgrass where he quotes Nelson and Sturtevant. I quote exact even to the parenthesis. "After the second day, according to Nelson and Sturtevant (not after the third day as formerly held), the worker larva is given undigested pollen grains and honey." And yet, and **yet** you accuse me of writing "Bosh."

In closing you say, "You are barking up the wrong tree." Now I want to let you in on a little secret. I have climbed up in the limbs of that tree you have been barking up. Just as I expected. No coon there. Just the neighbor's tom cat.

New Methods of Distribution

Your editorial under this head on page 296 needs further emphasis. Honey is hard to sell in the old way to the wholesale and retail trade when shipping by rail and it is difficult to make collections.

When you deliver by truck, you collect for what you sell or else you move on to a firm that does pay cash. You made a real hit with this editorial.

J. J. Wilder,
Georgia.

"Pollen from Cows" --Tish, Tish!

I have just read with some amazement the article on Pollen from Cows. What if the Press should copy this ridiculous story? What has become of the old-time good taste of the American Bee Journal?

Charry Lane Apiary,
Ohio.

[Do you doubt Mr. Weisner? We do not. Of course it was not pollen but probably material which had collected on the hair of the cows.—Ed.]

Where Are the Old-Time Bee-Hunters?

By W. H. Hull
Virginia

Bee tree in the Dismal Swamp that we cut. It was used as a "Boom Tree" by lumbermen, and so left standing.

What has become of the old-time bee-hunter? He used to be very much in evidence, a romantic figure, astute, reaping where he had not sowed, yet violating no law. Was he a natural product of the wilderness, doomed to disappear with the disappearing forests? Or were we all too busy making money during the score of years recently past to indulge in any such exotic diversions?

There are indeed few enough forests left, and little enough romance. Still the Great Dismal Swamp, in Virginia and North Carolina, retains a vestige of both. Much of its original area has been cleared and drained and devoted to agriculture—the fulfillment of a plan conceived and of work started by George Washington himself—but about 300 square miles of wild land remains. In it are many such bee trees as the one shown in the picture, which yielded a tub full of honey. Most of the trees remain unmolested year after year.

Some years ago an attempt was made to use this tract as queen rearing ground. Since it was practically uninhabited there was no problem regarding drones from other apiaries. But the problem of the bee trees proved more serious, and when foulbrood was found to be prevalent the queen rearing had to be dropped, since there was no way of eliminating the wild bees. There are a few apiaries there now, and fair yields of honey are obtained.

How About It?

The bee never gives up; forgets itself in serving others; places society above the individual—are you like that?

Bee hunting is good sport and often yields good returns. This tub full of honey came from one tree.

Chemistry, Honey, and Prices

By Observer

THE chemists have been doing some work of interest to beekeepers at this time when prices for honey are so low and so little money is in circulation. Our attention has recently been called to the fact that the molecular weight of sucrose (granulated sugar is about 99 and 99/100 per cent sucrose) is 342.8 while the molecular weights of dextrose and levulose, (the two sugars in honey) are 198.11 and 180.10. Now, what does that mean and what has it to do with honey prices? It has to do with the price of honey because honey, like anything else, must be advertised to sell well, and this is an advertising point. And it means that honey has an "osmotic value" of about twice that of granulated sugar.

But what does that mean? Translated into beekeepers' language, it means that the many disease germs which have their growth inhibited or stopped by a solution of sugar, will be inhibited by a concentration of honey only half as great as that of granulated sugar. In other words, because of the low molecular weight of dextrose and levulose, honey will osmose, or find its way through the cell walls of these disease organisms twice as quickly as sugar will; because the sugars in honey are what are called simple sugars, and of low molecular weight. They are therefore, twice as valuable as germ destroyers as granulated sugar, which is a complex sugar of high molecular weight.

And if that isn't a talking point!!

Honey Price Too Low.

Under this heading, the Oregon Farmer for December 1, 1932 ran an article from which the following is quoted.

"The mystery of how some beekeepers can put honey on the market at 5 cents per pound and still get by when the average cost of producing honey in Oregon is known to be about 6½ cents, is explained by A. S. Burrier, assistant in farm management at Oregon State College. Less than one-third of the net cost of production is cash cost, and some operators think that because they have a little money left after paying their current expenses, they have made a little money at 5 cents. Eventually, however, the overhead gets them, as indicated by the very large percentage of mortality in beekeeping during the last few years."

"Burrier presented first-year results of a two or three years' study of beekeeping costs in Oregon which was undertaken by the State College and the Federal Bee Culture Field Station at Davis, Cal. He and F. E. Todd, of the Field Station, studied 93 apiaries totalling 17,657 colonies which produced 1,099,407 pounds of honey in 1931. From the figures they expect to deduce much valuable information about the industry. For example, it is obvious that 25 per cent of the 85 extracted honey apiaries studied are showing a little margin even under present conditions. 56 per cent are in fair condition and about 44 per cent need to take steps and lively ones, for it is costing them more every year to produce honey than the average wholesale price.

"In these studies it was found that the yield per colony is a large cost factor. Sixteen apiaries had yields of 90 pounds or more and produced honey at cost of 4½ cents per pound. It cost 26 apiaries 8.7 cents per pound where the yield ran from 30 to 60 pounds. Net cost per pound of honey varied from 6.2 cents in the sweet clover and alfalfa regions east of the mountains to 6.9 cents in the fireweed districts of the Coast and 7.7 cents in the Willamette Valley, the average being 6.4 cents."

This article calls attention to the fact, all too often overlooked by farmers and beekeepers, that when they have had enough money to pay their bills for the year, or when they have a little money left in the bank, this does not mean that their business has been conducted profitably. If the beekeeper does not figure a certain amount for depreciation and for the replacement of hives and equipment, he will find himself a loser after a series of years.

When less than one-third of the cost of production is cash cost, the beekeeper does not realize that because he has not paid out much actual money in producing his crop, he is therefore not justified in selling honey at a low price. Because he does not pay out cash money, in getting his crop of honey, he figures that it has not cost him much. Because his labor cost is only about 24% of the total cost, against about 50% for other farm products, the beekeeper has more ready cash for every dollar he produces than producers of other agricultural products have.

He can "get along" better during these hard times, but he must also figure that if he does not pay out as much money as the producer of other farm crops, his overhead is about 75 per cent instead of the 50 per cent which farmers have. In other words, the beekeeper stands a good chance to go bankrupt, over a series of years, or perhaps more quickly than the farmer because he has had more money to spend and has lived better in the meantime.

But when the time comes for replacing his equipment, the beekeeper will just not be able to do it because so much of his cost of producing honey has been for depreciation, interest, and taxes. He has unwittingly spent too much of his cash income, figuring that he was better off than other farmers because he had more cash money to handle, not realizing that he should have saved some of that for replacement of equipment—if, indeed, it was possible for him to save anything and still keep from starving.

Beekeepers are also often tempted, because they have a little ready money from week to week, to help out other people who have less ready money, with the result that after a while, they are worse off than those whom they helped. Such studies as these, on the economics of beekeeping, will help the beekeeper to understand his business and protect himself by insisting that he get enough for his honey to enable him to stay in the business.

Higher Class Selling Needed.

In the next issue of the Oregon Farmer, for December 8th, is another article under the title "Honey Deserves Higher Class Salesmanship" from which we quote:

"F. E. Todd, of the Federal Bee Culture Station, told members of the Oregon Beekeepers' Association that it is practically impossible for the consumer of honey to know that the price is fair or what the price is; what quality he is buying or that the product will meet his needs.

"Recent studies show that there is a great variation in honey price range; that the product is presented in containers of many shapes and sizes; that there are on the market at least 102 different brands of honey as against 20 odd brands of syrup; that there is a general lack of advertising; and that both petty price-cutting and deceptive packages are common. Under these conditions, the prospect for increased or even sustained consumption is not hopeful."

This article calls attention forcibly to the unsystematized way in which honey is being sold. Salesmen in other industries marvel why honey sells at all, saying they do not know any other product which is marketed in so haphazard a manner and with so little attention to the laws of salesmanship.

That this need is being given some attention by beekeepers is shown by the fact that beekeepers in the three Pacific Coast states are working in harmony for state standards for honey and honey containers, believing that there must be standards for hon-

ey offered for sale; a few standard containers, instead of the multiplicity which now confuse the consumers and add to the cost of marketing honey. Washington has just enacted a standardization law for honey.

In this time of low prices and little money, it is up to the beekeepers to cut the cost of production and distribution of honey to the bone. If they do not, they will soon find themselves in financial difficulty if not out of business. Those beekeepers who produce honey at a cost of 10 to 27 cents per pound cannot hope to survive, while those who know what their cost is, and keep it below the selling price of honey can expect to weather the crisis.

Some Economic Facts to Think About

By Leonard S. Harker
England

FRIEND Manley, in the February issue (page 52) does not agree with me that the puchasing power in the hands of the public is chronically insufficient to purchase the whole of the products of industry. I was endeavoring to account for great gluts of commodities (including honey) in the U. S. and elsewhere, which are now rotting or being ruthlessly destroyed in an attempt to raise prices in the interest of producers. Luckily honey is not such a perishable article. It can be kept for a number of years, providing that it is carefully stored, and that it is of good quality and low moisture content, and packed in properly sealed tins. To hold several thousand tons of honey off the market in warehouse for years is an expensive business.

The Federal Farm Board has been able to help for a time in stabilizing the market by keeping surplus farm products in warehouse, also by helping in the export markets. As far as I can gather, the Federal Farm Board works under a form of government subsidy; but foreign countries have resisted these huge imports from the U. S. and have raised tariffs and other restrictions to bar the way. The other alternative is to distribute the glut in the U. S. amongst the millions of people who would be glad to have the goods if they could afford to pay for them.

Technocracy

Friend Manley steps in and says that there is **plenty** of money, but that it is in the hands of a small percentage of the population, probably not exceeding one-tenth; but he did not attempt to prove his statement, nor did he draw the obvious conclusion from his observation that we should take the surplus from the one-tenth and give it to the moneyless nine-tenths. **This robbing of Peter to pay Paul cannot increase the sum of the general wealth or distribute that unpurchasable surplus of goods.**

Under Socialism it is believed that the majority of the population are so poor **because** the minority are so rich. In Britain it has been found that to make an absolutely equitable division of the national income would result in an increase of the average family income of L25 p. a. (about 100 dollars). I wonder what your technocrats would have to say to that? Such a state of affairs would make the possession of even an automobile impossible to any private owner; hence also arises the moral sanction for the imposition of taxation on every member of the community above the starvation level. This would be a "levelling-down" process to form a classless and propertyless society, whereas the technocrats (however much one may disagree with their constructive proposals) have at least proved to us that it is not only possible, but very desirable and essential to "level-up" all around.

Manley and myself both see a world whose financial mechanism is failing to deliver the goods. It is not necessary to make a change in the nature of the steam which provides the motive force. What is required is that the valve-gear wants redesigning. Control over the currency would give the State all the control over production that the public good requires.

Costings and Honey Production

Turning to "The American Bee Journal for June, 1931 (page 285) will be found a complete analysis of the costs of honey production, given by Mr. J. W. Beatty, and prepared under the auspices of the North Dakota Agricultural College. It is extremely rare to see a full set of costings for honey production. From a study of these figures every harassed producer will get an inkling of the real flaw in the present economic system.

Money as purchasing power distributed, was as follows:

Labor—extra help	$220.00
Labor income—personal income	998.82
	$1,218.82

Let us call this A—that is, all payments made to individuals. We will call B all payments made to other organizations (plant, materials, packing charges and other external costs). These were as follows:

Disbursements—less labor	$1,738.00
Depreciation	386.20
Interest	319.58
	$2,443.78

Now the flow of purchasing power to individuals is represented by A, but since all payments go into price, the rate of flow of prices cannot be less than A plus B. Since A will not purchase A plus B, a proportion of the product at least equivalent to B must be distributed by a form of purchasing power, not comprised under the descriptions grouped under A.

From the above we find that A (wages, salaries and dividends) was $1,218.82 which cannot purchase A plue B—$3,662.60. The money representing B was wages, etc., spent in the past by the recipients in order to live, and had long ago gone back to the banks in repayments of loans, and has been cancelled.

The progress of industry has been to replace human labor as far as possible by machinery, and it is in the big industrial workshops that we see how B payments are becoming larger and larger in comparison with the A payments. Taking industry as a whole, the consuming public is only able to make an effective demand over a progressively small proportion of industry's gross output. It will be found that this analysis is true of all firms, individually and collectively, and also it is true of the nation, and of every nation.

I am sure that if Mr. Manley will apply this test to his own honey producing business he will find it to be correct.

This analysis shows that there is an unbridgeable gulf between the income of the consumer and the price of the goods offered for sale. The root cause of this is not profit, rent, interest, the land question, or even the so-called class struggle, but it is a mathematical flaw. Even if these factors were eliminated the problem of overhead charges would still remain unsolved.

Variety is the spice of life. Under our present economic system, one has at times to pay pretty dearly for variety, but under a sane economic system of complimentary foreign trade, founded on a real trading basis, as distinguished from economic dumping, there is no reason why we should not have and enjoy the products of foreign lands. The true purpose of foreign trade and exchange is to make home consumption more diversified, in order to give life a "kick."

Real Economics

Money is the essential link between production and consumption. Nearly all the money used by industry is "credit" or "cheque" money. Coins and banknotes are the small change

of society. Credit comes into existence in the form of loans, overdrafts, discounting bills, etc. The creation of credit has now become a monopoly owing to the system by which it is issued and cancelled.

Each industrial nation seeks to export abroad the surplus that it is unable to purchase at home, preferably to a less highly developed nation, and this develops into a frantic competition for foreign markets. Failure to do so means national bankruptcy, enormous unemployment, if not revolution. The logical outcome of this struggle is war.

The problem is to see that incomes and prices are always equal to each other. This can be achieved by the Just Price, which is the price that the retailer should sell to the public in order to reproduce the physical facts of production and consumption. In a physical sense the real cost of production is consumption.

No proposal for the improvement of economic conditions which does not include some fundamental adjustment of the present financial system can achieve anything permanently. The application of scientific principles to the internal financial system of any one country need not be made to depend upon the application of similar principles to the financial systems of other countries. In other words, the U. S. can put her house in order right away without having to ask for permission from other nations to do so. You may depend upon it, other nations would very quickly follow suit.

Honey Fruit Cookies

½ cup shortening, 1 cup brown sugar, 1 egg, ½ cup honey, ½ cup sour milk, 1 teaspoon soda, ½ teaspoon salt, 2½ cups flour, 1 teaspoon cinnamon, ¼ teaspoon allspice, ¼ teaspoon cloves, ¼ cup raisins, ¼ cup cocoanut, 1 cup chopped nuts.

Cream shortening and sugar, add egg well beaten, honey, milk, and flour sifted with dry ingredients, fruit and nuts. Mix well, spread thinly on greased pan. Bake in moderate oven (375 degrees) 20 minutes. Cover with plain icing.

Mrs. Benj. Nielsen.

Harlequin Ice

1 can apricots, juice of two oranges, juice of one lemon, 1 pint ginger ale, ½ cup honey, 2 egg whites, ¼ teaspoon salt.

Chop apricots fine, blend with honey, orange and lemon juice and ginger ale. Stir thoroughly, partly freeze, remove from freezer, beat with egg beater and fold in stiffly beaten egg whites. Return to freezer and freeze until solid.

Mrs. Benj. Nielsen.

In Memory of F. Eric Millen

By Dr. G. I. Christie
Ontario

F. Eric Millen

Our ranks were broken when Prof. F. Eric Millen, a loyal respected and prominent member of the staff of our Ontario Agricultural College was called away on the morning of July 14, 1933. I know that I speak for every member of the College community and a host of friends when I say that our hearts are heavy and filled with sorrow as we mourn the loss of our co-worker and comrade.

Prof. F. Eric Millen was born at Lynsted, Kent, England, July 4, 1882. On the death of his father, Eric Millen was sent, at six years of age, to Wreights School, Faversham, where he received his early education. He arrived in Ontario to work on a farm near Lindsay in 1903. During the next three years, he spent some time in Mount Herman College, Massachusetts, and in a Poultry Short Course at the Ontario Agricultural College. He entered the College in 1906 as a freshman.

On a trip to England in 1907, Eric Millen was taken ill and unable to return that fall. In 1908 he married Clara Goodhue of Sittingbourne, Kent. Two years later, with Mrs. Millen, he returned to the Ontario Agricultural College to complete his course. He specialized in Entomology and graduated in 1913.

Eric Millen won and held the high esteem of the faculty with his genuine interest, initiative and hard work. No test was too hard or required too much time. On graduation, he was appointed State Apiarist and Instructor in Apiculture at Michigan State College where he served until January 1916 when he was appointed Associate Professor of Apiculture in Iowa State College. October 1919 he returned to Ontario Agricultural College as Professor of Apiculture and Provincial Apiarist. In this position he has served as the leader of the industry throughout the Province.

The education, training and practical experience in Canada and the United States qualified Prof. Millen for the important position he has so ably filled in the College and in the Province. The Apiculture building, completed in 1920, is the largest and best equipped building devoted entirely to apiculture in the North American continent, and represents the ideas and plans of Professor Millen. During fourteen years of service in the Province, Professor Millen exerted an influence on the industry which will live for a long time. He won the hearts of his students, filled them with inspirations and placed before them the highest ideals, preaching work and business ethics. Professor Millen was sincere and straight forward. He expected others to meet him on the same high plane.

Professor Millen was the happiest with his family. Two daughters, Nora and Margaret, came to bless the home and to add to the joy of the parents. To these bereaved ones, our hearts go out in deepest sympathy.

Professor Millen fought a good fight, lived a rich full life and has left a deep impression on the lives of our people which will not be forgotten.—(From an address at a memorial service Ontario Agricultural College, July 17, 1933.)

Pollen from Cows

On page 304, we are not told whether the bees were getting real pollen which had found its way into the hair on the heads of the cows while they grazed, or whether they were obtaining meal which got there when the cows were grained. Since cows do not sweat, it could hardly be the residue of perspiration.

Allen Latham,
Connecticut.

Another Edition of a French Queen Book

We just received a few copies of the fourth edition of the "L'Apiculture Intensive Et L'Elevage Des Reines" by A. Perret-Maisonneuve.

This fourth edition is completely revised and brought entirely up to date.

The volume contains 730 pages, a large number of illustrations and might be considered a thorough book on queen rearing.

Anyone interested, we shall be glad, indeed, to send a copy at the postpaid price of $2.50. The book is paper bound unfortunately, but nevertheless a great addition to any beekeeper's library.

Cellar Wintering

By Ed. G. Brown
Iowa

I AM giving you a few ideas and observations which have been picked up from thirty-five years of experience in cellar wintering. I have had considerable experience with outside wintering in several forms but these have only made me a more staunch advocate of cellar wintering in the locality where I operate, which is northwest Iowa. Some of my ideas will probably open the way for considerable discussion and differences of opinion but they are all theories which I have proved to a point which my boys and I practice in the operation of our five apiaries of approximately one thousand colonies.

Our wintering work is done in caves 14x16 feet with a 6-ft. 3-inch ceiling which accommodates 100 colonies each. These caves are constructed by digging down about three and a half feet and building up a board construction three and a half feet which is banked up with the dirt that is removed from the lower part; a board ceiling is covered with a foot to eighteen inches of straw or leaves and a roof and gable ends keep this packing dry. The entrance to these caves is equipped with four to five easily spaced steps and with two doors, the inner fitting the inside wall of the cellar and the outer one matching the slope of the banking. The object of this construction is to make as few steps as possible in carrying the bees in and out. The caves are placed as close to the bees as possible, usually one set of colonies is within two or three steps of the door.

We have used a great many types of caves, well-built cement ones, caves cut back into the solid clay hills with several feet of earth over them and caves dug full depth below the ground level and covered with various depths of dirt and also straw and dirt but we prefer the built-up type of 100 colony caves.

After considerable experimenting we have decided that the proper moisture condition is one of the most essential elements of cellar wintering and these are a few of the things which led to this theory; the first cave of the built-up type was made on the Missouri bottom land where the water level in the ground would not permit of digging down more than three feet and at this level the ground was so muddy we covered the floor with tar paper and boards to better the walking while carrying the bees in and out. There we could winter more bees and hold them longer than we could in the same type of cave in the dry hill country.

The first caves were built with a roof with only four inch eaves and the water ran down the side of the lumber keeping the dirt in the walls moist and causing the banks to cave some and the lumber rotted rapidly but the bees wintered well. In order to protect the lumber in the caves we put a two foot wide strip of roofing iron under the eaves and the full length of each side of the caves. This carried the water away and we had some of the most beautiful bone dry caves you could ask for but the results were disastrous and in some instances we lost as much as 50 to 60% of the bees in the same caves where we had formerly perfect wintering. About a month to six weeks after the bees were put in the caves they would "blow up" as we call it, becoming restless and the temperature ran up regardless of the amount of snow on the ground or how low the temperature was outside. In checking this to find what was wrong, we decided that the only change in the caves was the amount of moisture available and that the action of the bees was the same as that of bees in an observation hive when in need of water. By throwing water enough over the piles to completely wet them over or by throwing a quantity of snow over the pile and letting it melt and run down over them the bees would soon quiet down and remain so until the cave dried out. In about a month this process would have to be repeated. By thoroughly soaking the floor and walls the day before putting the bees in, using two or three barrels of water, the bees would remain quiet much longer than when this was not done.

What per cent of moisture is necessary I do not know and at what point moisture would become detrimental is something which should be determined. The cellar at my home place is of very tight cement and brick construction with a good ventilating system and during the past five years I have found that it takes about ten to fifteen gallons of water poured on the cement floor every other week to keep moisture enough in the air so the bees will remain quiet. This is just about enough to make the floor look wet all the time. The condition of the outside air has a great deal to do with the amount of water required. The winter of 1931-32 had a great deal of fog and the cellars required a great deal less water than the preceding four or five winters.

The temperature at which I prefer my caves to run is 42 degrees but I would prefer that the variations should be below rather than above this point. Bees at this temperature and with plenty of moisture available will come out of the cellars from the 10th to 30th of March with a fair amount of hatching brood and in condition to maintain their strength through the spring. If the cave temperature is too high the bees will not cluster enough to rear brood and will consume more honey especially if they are short enough on moisture to make them restless.

Spring drifting when the bees are taken out of the cellars is also a source of much trouble to some and we have found two things that will greatly reduce this. By throwing a few pails of water over the hives in the cellar the day before taking them out, they are not as anxious to rush from the hives when taken out. Our yards are arranged so the bees are returned to the same stand occupied the year before and this prevents old bees from becoming confused. We have tried experiments enough to thoroughly convince us that a great many old bees remember their previous location and are as much a cause of confusion as young unlocated bees. We also prefer medium strength colonies for cellar wintering rather than those of extremely large clusters, which requirement is the reverse for outside wintering.

For successful cellar wintering I consider the following conditions essential.

(1) A sufficient amount of moisture to keep the bees supplied with water: (2) a temperature low enough to keep the bees clustered; (3) just a medium sized cluster rather than large ones, and (4) the bees to go back on the stands they occupied the year before.

Honeyflow in Idaho

Honeyflow in Idaho was pronounced better than last season, especially in certain districts, at the monthly summer picnic at Minidoka dam by beekeepers of Minidoka and Cassia counties, members of the Mini-Cassia Honey Producers' Association.

F. G. Butler reported Albion basin as having an especially heavy flow of honey this year, one of his hives already producing 235 pounds of extracted honey.

The meeting was in charge of Eugene Budge, of Burley, president of the association, and was well attended. Beekeepers engaged in round-table discussion on marketing honey and prices for the product. It was brought out that prices are advancing.

Frank Beach gave a talk on apiary appliances and demonstrated the uses of the bee veil, smoker and hive tool.

G. P.

A Roadside Stand That Stops Them Coming and Going

By S. F. Haxton
Pennsylvania

A roadside stand that stops tourists both "coming and going" is used by C. J. Baldridge in the Finger Lakes region of New York State. On an attractive lawn beside the state highway at Kendaia, near Seneca Lake, he has five neatly painted beehives on both sides of which are large cut out wooden letters arranged to spell the word honey. The letters are in black and the contrast between the black letters and the white hives makes the message stand out for a long distance, since the road curves in front of Mr. Baldridge's farm.

On top of the hives, Mr. Baldridge keeps a display of honey in jars of all sizes up to a quart, with the price of each jar indicated on top. In addition to clover honey, he also offers buckwheat honey, a favorite of many customers in this section.

"My honey stand attracts considerable attention," said Mr. Baldridge, "and it proves well worth while, since I sell honey at retail prices. A man from the marketing division of the United States Department of Agriculture was stopped by it and photographed it as an example of effective roadside marketing."

Mr. Baldridge operates 600 colonies for extracted honey as well as taking care of a farm of several hundred acres. Late in August he was busily extracting between the clover and the buckwheat flows with two men uncapping and one loading and unloading a big power extractor.

After extracting, all defective combs were removed and replaced with wired frames with full sheets of foundation. Mr. Baldridge, in addition to wiring horizontally, puts one wire in each frame vertically from the lowest horizontal wire to the bottom of the inside of the top bar, a method which he says prevents any slackness in the horizontal wires, prevents sagging and makes a better job.

Amen, Mr. Hofmaster!

To the article by Mr. Hofmaster, "What is in a Name?" on page 278 July, I believe every beekeeper can reply "Amen." Mr. Hofmaster covers the whole ground. It is one of the best things in the interest of beekeeping I have read for a long time.

Let's wake up and put our shoulders to the wheel. If we beekeepers hammer away at it, we shall certainly succeed. Every suggestion in that article is good except the editorial comment.

Give it a name such as Mr. Hofmaster suggests, have the Bee Laboratory at Washington coin a name, they originated the distinquishing name of "American and European" and why not turn over a new leaf and have a new name for the disease?

Frederick Hahman,
Pennsylvania.

Direct Sales of Honey

Now that low prices make it necessary to get the honey to the consumer at the least possible expense, some of our readers may be interested in a plan developed by the late T. W. Livingstone of Georgia and mentioned in this magazine many years ago.

Livingstone had a honey tank mounted in the back of a light delivery car. Driving over a route to reach the largest number of customers, he sold honey direct from the tank and put into any container which suited the convenience of the buyer. Some would buy a pound and others fifty pounds. It went into every conceivable kind of bowl, jar jug or bottle to be found in the ordinary kitchen.

Every cent that the customer spent went for honey and there was no outlay for containers, labels or handling. A direct trade in honey was thus built up somewhat after the route followed by the dairyman, excepting that the trips were made at infrequent occasions. Customers came to look for the honey man and to be prepared to buy when he arrived.

We are reproducing the picture of the outfit used by Mr. Livingstone with the driver of his car.

A Roadside Stand in Florida

Below—A closer view of the bee yard.

Above—Ackre's stand with bee yard in the back.

Here is a picture of my roadside stand and also a part of the bee yard where I sell my entire crop of honey from 48 colonies, averaging 150 pounds. Sometimes must buy more to hold customers.

My place consists of 2½ acres of ground, one five-room house, one double garage, one brooder house, one large hen house and four small hen houses, fruit of all description and about an acre of the best garden land in Florida. There is a big lake on one side and the highway on the other with all paved roads four miles to Orlando and two to Winter Park.

This is an ideal place for one able to work who enjoys trucking, bees and poultry. I generally keep about 500 laying hens and raise about that many chicks every year but there is room for more. However, I am 62, worked to death and all alone. I must dispose of my holdings.

The roadside stand is built large enough and convenient for a man to live in. It has a screened porch and three rooms. The front room is equipped as a tidy grocery store that sells staple groceries with honey, vegetables, eggs and soft drinks. The entire crop is sold right here. There is an average of 500 cars passing every day. Our place is called "The Beehive."

Conrad Ackre,
Florida.

How Dangerous Is An Old Comb?

The article in the July issue, page 258, on "HOW VALUABLE IS AN OLD COMB?" is in line with a thought of mine except my idea of discarding old combs was for the purpose of renovating the hive. Keeping the cell room to its maximum by replacing burred, broken, irregular and sometimes moth-eaten combs will of course boost a good queen, and consequently honey production much more than one would think. But the idea of hive cleanliness is one road to the elimination of disease. Of course foulbrood will infect new combs and be just as deadly too, but it will have to be carried there from an old comb where in finality it gets its start.

Everybody from the old masters down have preached the value of old combs. They are thicker, heavier, warmer and the bees first hovered and liked them best. But in fact the cells of old combs grow constantly smaller with each successive brood and certainly the remaining cocoons and castings from the emerging brood will retain any disease or other inhibiting influence to be-devil the next set of larvae to inhabit the cells. It is presumed that the workers will replaster and burnish up the cells after the brood hatches so the next will have a clean berth. Apparently they do this but who knows how efficiently it is done?

It is claimed that some races of bees will carry out and clean up foulbrood. Do they actually do this or do they just reline the cells a little deeper with wax and propolis? Anyway, why throw off on the bees? Is it, or is it not, just plain beekeeper ignorance or laziness to perpetuate such a dangerous menace? I have a feeling that the proper place to begin at cleaning up foulbrood is right here.

L. F. Childers,
Missouri.

The field wherein bees feed
Is no whit bearer for their biting.
When they have took their full repast,
The oxe may fatten on their leavings.

—Culled from an early writer by W. H. Hull.

Honey Sold Right from the Beehive

By M. A. Bartlett
Colorado

Honey on the highway is a familiar sight to the motoring public. Packing box stands display it on their rough counters. Tables banked by baskets of fruit are weighted heavy with jars of amber sweetness, and piles of honey in the comb. The roadside business has flourished, even under the most haphazard methods.

Out in western Colorado, however, there is a honey producer who has taken more pride in his product than to market it any old way. Instead of an ugly thrown-together stand, an eyesore to the countryside, he has erected a neat, permanent, prosperous-looking building that catches the eye and holds it long enough to make a most favorable impression, for the building is in the shape of a bee-hive—a mammoth one. One can't forget it.

This hive, known as the Bee-Hive Market, is located one mile from Grand Junction, on the main highway to Utah. "Teaser" signs arouse one's curiosity all the way out from Grand Junction. Then just as a curve is rounded and the hive comes in view, appears a sign: "Here It Is—Saunders Honey—Bee-Hive Market."

An electric sign over the front of the market announces it at night. A wide and colorful awning spreads over the front. On blackboards placed for easy reading specials and current prices are written in a large, legible hand.

True, honey can be sold from any rough wayside stand, but how much more can be sold when the stand is attractive, well-kept, and a permanent reminder of the product sold!

A Test of Caucasian With Italian Honeybees

The First of Three Articles

By C. L. Corkins
Wyoming

IF one is to judge by the discussions, and some arguments, in the bee journals during the last couple of years there is at the present time a tremendous interest in races of bees, particularly Caucasians and Italians. This is a very healthy sign in the industry. More and more during the present period of economic liquidation and retrenchment we are beginning to realize that in an increase in the quantity and quality of our production per hive lies much of our hope for a profitable return from our bees. Improved marketing conditions come slowly and we are not nearly as "far out of the woods" at the dawn of the new year 1933 as we expected to be three to five years ago when a new day of honey distribution and sales seemed to be "just around the corner." Some of our interest is swinging back towards production, with the inevitable turn of the pendulum, and we are frantically trying to reduce the cost of producing a pound of honey in order to meet our new situation. It is my firm belief that in the selection and adaptation of races and strains of bees to our particular locality lies the most fertile of all production fields in this respect. So it is a matter worthy of particular commendation to note the interest in races and strains of bees—even heated arguments. Nothing but good can come out of it.

It is difficult to write upon this subject without crossing opinions and experience with someone. For we labor in different vineyards, and, undoubtedly, a race or strain of bees which is superior in one locality may be inferior in another. Many of our arguments have arisen from this source of difference. Others have arisen because we have written too much from the "opinion" viewpoint, with insufficient experience and little or no experimental data for a background.

So, in order to avoid misunderstandings, I shall write from the standpoint of intermountain conditions and confine the discussion of results to experimental data and observations gleaned in a mountain location. Certain principles will be pointed out which may be helpful in applying the results to other localities.

Beekeeping investigations were started at the Wyoming Agricultural Experiment Station the summer of 1924 with Italian bees. The following spring, Caucasians were also established and both races have been in the apiaries since that time. An intensive investigation of the relative merits of these two races of bees under our conditions was started the spring of 1928. This will be a brief report of the important findings of this project.

> We are sometimes accused of being partial to Caucasians. To settle that point, let us say, most decidedly, that we do not like them. The few remaining colonies of Caucasians will soon all be Italians again. But, we like to be impartial and there are many beekeepers who cherish the Caucasians. These three articles from Corkins seem to hand the palm to the grey race. But remember, he speaks for the high mountain country. Here they will not do. Read and think as you wish.

For those living outside the Rocky Mountain region, it is important in the interpretation and application of the results of this investigation to describe our locality. Our higher mountain valleys and plains have perhaps exceeded the expectations of our fellow-townsman of the last century, the great humorist Bill Nye, when he said that the Laramie plains were fit for nothing except "the raising of hell and heifers." But the weather has not changed beyond his pertinent remark "that spring lingered in the lap of winter so long that there was a good bit of gossip over town about it."

These Laramie plains where our apiaries are located are 7,200 feet up in the rare air. The average growing season is only 101 days in length and light frosts have been recorded every month of this growing season during some years. These plains are in an arid belt, completely surrounded by mountains. The honey plants are largely dependent upon irrigation for moisture. But how they do shoot out of the ground during this short growing season!

The summer season is cool, even cold at night. The mean maximum temperature for the warmest month runs about 75 degrees F. Although arid, often during the main honeyflow of July and August mountain showers pass over, on an average one out of every three days. In addition, there are many other days of windy and threatening weather.

Of course the winters are long, although extremely cold spells are usually of short duration. Every winter temperatures of from 25 degrees to 45 degrees F. below zero occur. During early May the spring activity of the bees begins, with dandelions blooming in profusion about the tenth and lasting until June or later. A few wild flowers of minor significance augment the spring flow.

The major honeyflow comes from sweet clover. Yellow sweet clover starts blooming anywhere from June 15 to July 1. But the big impetus in nectar gathering activity begins about the middle of July when the white sweet clover comes into blossom. This honeyflow lasts about six weeks.

Thus our location, in common with most localities of the intermountain states, is characterized by a long, cold winter, a late spring with a short building up period and a late season, intensive honeyflow of comparatively short duration, during which much windy, cloudy and rainy weather usually occurs.

Italian bees are so generally and favorably know that it is unnecessary to discuss them here as to their history. Suffice is to say that in these experiments we used the best Italian stock we could get from leading breeders over the country as well as localized stock of our own region. An attempt was made to give a true picture of the activity of the Italian race as they are known in this country.

Considerably less is known by the beekeepers of America about the development of the Caucasian bees here. So a brief history of the strain of Caucasian bees which we used will be given.

The complete story of the Rauchfuss Caucasians is the intimate story of the life of our greatest contemporary beekeeper in our territory—that of Herman Rauchfuss of Englewood, Colorado. For Caucasian bees have been given a lifetime of study and intelligent selective breeding by this great master of beekeeping.

It was Herman's brother Frank, the late manager of the Colorado Honey Producers' Association, who suggested that Caucasians be given a trial. So the first importation of grey Caucasian bees which was established in the United States was made in 1897 by Herman Rauchfuss of Denver, Colorado. Two queens were received from Germany which, presumably, were imported there from the Caucasian Mountains of Europe.

These bees were not entirely grey in color, most of them having one yellow band on the abdomen. But Mr. Rauchfuss found them superior to his Italians. They were gentle to handle and good honey gatherers. Also they stood the winters exceptionally well. At that particular time, especial interest centered in the discovery of a strain of Italians that had tongues of sufficient length to gather nectar from red clover. It was found that these Caucasians had a tongue length exceeding that of any other race or strain of bees in the United States at that time. One of the peculiarities of this first strain of imported Caucasians was that they were given to the production of an unusually large number of queen cells. In one instance of swarming preparations over 250 ripe queen cells were found in one colony, 72 on the bottom of a single frame. But in spite of this, Mr. Rauchfuss discovered that they were not any more given to swarming than his other bees. They just simply seemed to go at it in a big way.

The second chapter in the story began with the convention of the National Beekeepers' Association at Denver in 1902. Among the notables of beekeeping of the time who visited the Rauchfuss apiaries was Dr. Benton of the U. S. Department of Agriculture. Benton's hobby was races of bees and traveling to the far corners of the world to study and import new races and strains. He took two of these Caucasian queens to Washington, D. C. He must have found them good, for his interest was aroused and he made a trip to the higher altitudes of the Caucasians to investigate these bees in their native haunts. Here he obtained what he called the Abkatz variety of Caucasians and sent queens to Mr. Rauchfuss.

Then began the third and most important chapter in the story—one still in continuous progress. These bees were uniformly dark grey in color and the best Caucasian stock Mr. Rauchfuss has ever obtained. Had it not been for Mr. Rauchfuss, this trip of Dr. Benton's might have been for naught, for he, alone, preserved this stock for posterity. Other importations made at the time by Dr. Benton have long been lost.

Mr. Rauchfuss soon sensed the superiority of these bees for his conditions and largely forsook the Italians. Being both a keen student of nature and a successful commercial beekeeper, he started centering his attention upon the careful selection and breeding of these Caucasians. This work has gone on through the years with ever increasing vigilance and care, so that there is little doubt but that the present Rauchfuss Caucasians are much better bees than the original stock—at least for our particular conditions.

One later importation was made in 1924 from Dr. Gorborscheff of Georgia, Russia. But it has largely been the Abkatz stock which has been the foundation of the present strain.

These are the Caucasian bees which were used very largely in the experiments to be here reported. A few Caucasian queens from the Bolling Bee Company of Bolling, Alabama, were also tested and were found uniformly good and generally similar in their activities to the Rauchfuss Caucasians.

In the next article I shall discuss the comparative seasonal brood rearing activities and the honey production propensities of the Caucasian and Italian bees.

Honeybees Produce Profits for Melon Growers

By Bryan Smith

IT has long been known that honeybees are essential to the profitable production of orchard fruits, but their importance in the profitable production of watermelons in the Big Bend district of southern Oklahoma is a very recent discovery. The lack of sufficient honeybees to pollinize the early watermelon blooms has cost watermelon growers of this district thousands of dollars.

Southern Oklahoma, like Texas, has to depend upon the northern markets as an outlet for their watermelons. The first crop of ripe watermelons, from the Big Bend district, goes on the market about July 1. Because of Texas shipping her main crop at this time, the Oklahoma melons are sold in nearby towns and cities by the truck load at a good price.

The second crop of melons ripens about July 20 and lasts until about August 10. This is the crop from which the growers receive the most money, because the Texas growers are through shipping and there is no competition.

The third crop begins to ripen about August 10 and lasts for about twenty days. The profits from the third crop are greatly reduced by the competition with melons grown farther north in the state.

For a number of years the production of a good crop of either first or second ripenings was considered as a matter of just luck. In fact it was looked upon as luck until Mr. W. M. Turner, leading watermelon grower of the district, found that where a few colonies of honeybees were kept near a melon field it would always set early melons.

It is known to all melon growers that watermelons are dependent upon pollen-carrying insects to fertilize their blooms, but it was for Mr. Turner to find that honeybees were the earliest active pollen carriers. Since other pollen-carrying insects are not active until late in the spring, the fields that are visited by honeybees are the only ones that set melons that will ripen before the tenth of August.

Since only a few of the melons are marketed from the first ripening, only the second and third crops will be considered in showing the profits that honeybees produce for the watermelon grower. A fourteen-ton carload of watermelons on July 25 is worth $350, while the same weight car of the same grade of melons would only be worth about $175 on August 15. This gives the bees credit of making a profit of $175 per car for the grower, for without the aid of the bees the melons would not have set in time to ripen before August 10.

Until recently, Mr. Turner has believed that honeybees were his special enemies, but he is interested in them to the extent that he is making a special study of apiculture. He plans to grow into the apicultural profession (instead of going into it, as most people want to do). He has purchased two colonies of bees, housed in eight-frame modern hives, just to study and to grow his apiary from. Much of his time is now being spent in studying books, bulletins and beekeepers' articles on the care and management of honeybees.

Mr. Turner is planning to ship twenty-five carloads of watermelons this year, and by the aid of his bees, and his neighbors' bees, he hopes to send more than half of them from the second ripening.

Oklahoma.

Baby Nuclei

Henry Alley used a very small baby nucleus for mating queens, the one in fact which E. L. Pratt later adopted and exploited as his own. "Swarthmore" [as Mr. Pratt was known.—Ed.] never offered anything of value except what he obtained from Henry Alley. A man in Hartford, Connecticut still adheres to the statement that a queen bought from Henry Alley lived into her seventh year. This queen was mated in a baby nucleus.

I have used baby nuclei, modified after the pattern of the Alley, for 25 years, and feel that they are all right when properly used.

Allen Latham,
Connecticut.

Methods of Extracted Honey Production and Their Relation to Foulbrood

By R. B. Manley
England

THERE are two methods of producing extracted honey: One by the use of large single brood chambers and deep frames, after the Dadant plan, with a shallow frame for extracting.

Many beekeepers are whole-heartedly in favor of using one size of frame only, claiming that much labor is saved and production simplified. Accordingly a large percentage of honey producers who produce extracted honey use one size of frame only.

However, have beekeepers in the United States ever thought of this from the viewpoint of the control and prevention of American foulbrood?

It has been forced on the mind of the writer more and more in recent years that much of the difficulty now experienced in the control of that disease may probably be attributable to the usual plan of extracted honey production with swarm control measures like the Demaree plan.

A moment's thought will show that any method which entails the indiscriminate use of brood combs for both brood and supers so the brood combs of today become the extracting combs of tomorrow must place foulbrood more and more beyond the control of the beekeeper.

Let us suppose a colony of bees is "Demareed" in May and that the colony has in it the germs of American foulbrood although the disease may not have developed, or may have developed to some slight extent and still not have been noticed. The act of "Demareeing" will check the progress of the disease and possibly stop its development in the brood chamber almost entirely if it is only an incipient case. The brood duly emerges in the upper chamber and the combs are filled with honey; finally reach the extractor and are returned to be cleaned out by the same or some other colony. Readers who understand foulbrood will easily develop this argument for themselves without any elaboration.

Now let us consider an apiary worked on the system advocated by the Dadants. In this case the brood is confined to the brood chamber of deep combs or it may be presumed that unless the queen confines her activities to the brood combs willingly, queen excluders will be used. I have never been able to prevail upon my queens to confine their attentions to the brood combs and I always use queen excluders so I may know where the queen is located.

With this system, should any foulbrood germs enter the hive, infected larvae will be in one set of combs only. Super combs that have never been used for brood can be readily sterilized. A thorough washing in running water when no bees are flying will eliminate all honey left in the extracting combs. Such an apiary is more easily cleaned up and there is no need or sense in burning up all super combs. For some time I have wished to obtain the opinion of competent American beekeepers as to whether there is any indication of a tendency for more foulbrood in apiaries operated from comb honey than there is in those worked for extracted honey. Also, whether there is a greater tendency for the spread of foulbrood where one size of comb is used in both the brood chamber and super as just indicated. It seems that such might be the case.

In England, many years ago, it was quite a noticeable thing that skeps (straw hives) were much less liable to have foulbrood than frame hives and there are some indications that where extracted honey is raised, the disease is more prevalent than where comb honey is the objective.

I have several times completely and absolutely cured cases of American foulbrood in colonies having supers of extracted honey over queen excluders by the simple process of lifting aside the supers **during a good** honeyflow, removing the brood chamber and, having caught the queen and placed a new chamber containing frames fitted with foundation and one drawn comb known to be free of any taint of disease on the stand, replaced the excluder and supers of honey and ran the queen in at the entrance. The old brood chamber is then carried to one side and left till all the flying bees have returned to the old site and then the brood chamber is removed, the combs, bees, and frames destroyed and the hives scorched out.

The absurd idea, so prevalent in America, that the hives should be destroyed should be combatted by all beekeepers. It is quite unnecessary. A hive, even left unscorched will seldom transmit disease and if it is washed out will practically never do so. If it is both washed and scorched, it never will at all.

How to Eat Comb Honey

I have read countless articles on how to produce comb honey but, until now, never a single one on how to eat it. I must confess that I have been one of those old fashioned souls who have always used a knife to convey it to the hot biscuit, pancakes, or what have you. I must confess I never knew what a back number I have been until now. I am not alone in this crude habit for I have seen many of the more prominent bee scientists and bee educators do likewise. Can it be that they do not know how comb honey should be eaten. I hereby confess the error of my ways so that they may profit thereby and not commit a gastronomic crime when they are out in company with the elite.

No less an authority than the editor of AMERICAN COOKERY, formerly the Boston Cooking-School Magazine, tells us how the art, or science, of eating comb honey should be done. In the August-September number, page 112, some subscriber asks: "How is Honey in the Comb, that is used at the table, to be Eaten —that is, should it be chewed and swallowed, or what should be done with it?" The answer is given as follows: "We have seen the honey divided by fork or knife (if not already divided), taken up between finger and thumb and squeezed over the pancakes or muffins or other breadstuff very much as you take up the triangular cut of lemon served with oysters on the half-shell and squeezed over these. This should be daintily done, so that too much honey will not stick to the fingers, and the finger bowl should be placed at the cover for immediate first aid. No, never, never should the comb be chewed and swallowed. This would be a crime against both dietetics and table etiquette."

If this is the new deal, I will take my honey extracted.

Don B. Whelan.

Honey Diluted With Milk

L'Apicoltore Moderno, of Turin, Italy, in its March number, advises the diluting of honey or sugar with milk, for feeding the bees in spring. They assert it is very healthy.

Smoker Fuel

Clean cotton rags that have been dipped in a saltpeter solution, make excellent smoker fuel. Use one tablespoon of saltpeter to one gallon of water in preparing material for fuel.

Fuel thus prepared never bursts into flame, no matter how vigorously the smoker may be used.

Beekeepers who have had fuel burst into flame upon rapid motions with the bellows, thus burning bees and having no smoke when a good supply is most needed, will appreciate this method.

Mrs. Benj. Nielsen,
Nebraska.

The Roadside Is the Bee-keeper's Own Market

By L. F. Brumfield
North Carolina

HONEY sales may be increased without extra outlay through the use of the roadside market, a fact which is being learned by bee-keepers in increasing number each year.

Thompson Brothers, Surry County, North Carolina, sold more than 12,000 pounds of sourwood honey directly or indirectly from their home market. The indirect orders came through mail from satisfied customers who had made purchases at the farm in previous years and from parties to whom the product had been recommended or served to by their friends who well knew the value of it.

At first the boys only placed a honey sale sign in the shade of a large oak near the road in front of their home, but after three years of increasing business it was very evident a permanent stand should be constructed. This was carried out, the market being placed on the north side of the lawn, back from the highway, to allow sufficient parking space for motorists. A beautiful display of honey in two- three- and five-pound containers with labels was kept in the large window space at all times to attract the tourist. The building was painted white, with a new beehive on each side of the house to aid in getting the attention of the passer-by. Grounds are kept mowed and signs freshly painted during the summer.

F. D. Lamkin, Cayuga County, New York, found his roadside market very serviceable in selling his honey at retail prices direct to the consumer. Butter and eggs and other seasonable farm products are also sold from the place. The honey is placed in popular containers which are labeled and displayed on a portable stand on the lawn near the road. It is made in the style of three corner steps, with a large umbrella to keep the evening sun off the products.

H. Henker, of Grundy County, Illinois, sells the honey from sixty colonies of bees from his home by placing samples of the product on a table near the road. The entire supply goes at top prices, stated Mr. Henker.

Roadside marketing is inexpensive and has proved itself very profitable for those who have tried the plan. It is only natural that consumers prefer to trade direct with the producer in order to secure fresh products at more favorable prices, and with the advent of good roads and automobiles the opportunity avails itself to more farmers each year.

A Remedy for Skunks

I have noticed items in the Journal in regard to skunks and have found a remedy. I take an egg, make a hole in the large end or air space, pour out some of the white and put in a little strychnine, as much as will stay on the blade of a pen knife; seal up the hole with adhesive tape and set the egg in front of the hive on which the skunks have been working.

They do not bother any more. They do not get more than few feet from the hive and leave no odor. I cover the body with dirt and that is an end to the nuisance.

I. C. Ternan,
Washington.

Disease from a Swarm

The first case of American foulbrood which ever came to me, except through purchase, was brought by a strong swarm which took possession of a vacant hive.

Allen Latham,
Connecticut.

Use Nature's Design for Honey Jar

Attractive Package Developed from Honeycomb Pattern for "Lake Shore" Brand.

In a search for an outstanding honey package which not only would attract the instant attention of both retailer and consumer but which would likewise, be an attractive symbol of pure honey, Mr. Walt Straub, President of the W. F. Straub Laboratories, Inc., conceived the idea of creating nature's honeycomb in glass.

The Owens-Illinois Glass Company of Toledo was called into consultation on the problem and their designer, Mr. Ed. W. Fuerst, contributed additional original ideas and the very attractive Lake Shore package resulted from these combined efforts.

Owens-Illinois produced a jar of rectangular shape and of such surface pattern that, when filled with honey, it gives the appearance of the familiar honeycomb. To serve the public with honey in its more modern and convenient strained form, yet retain all the suggestion of the sealed purity of the honeycomb was the objective in designing this new package. The illusion is still further created by partially enclosing the jar in a cut-away carton which covers up

the wide-mouthed bottle neck and screw cap. This carton also carries the brand label thus avoiding covering the exposed honeycomb sides of the jar with any label.

When the carton is removed by the consumer the jar provides a handy container which is convenient for kitchen use and so attractive as to invite its use directly upon the table. Likewise the carton assures the housewife a most sanitary and dust-proof package for the table. The Illinois-Carton & Label Company and Salemakers, Inc., of Chicago, manufactured this carton.

This honeycomb jar is an excellent example of the versatile application of glass in securing containers that increase sales by being suggestive of the product. The Straub Laboratories already have been granted 14-year design patents on this package and further basic structural patents are pending. Its initial success promises that it will become one of their most valuable trade assets.

As to That Egg Moving Stunt

By Alfred H. Pering
Florida

THE article by Moody Brenneman in December, "Yes, They Do Move Eggs," deals with the question of moving eggs from one colony to another. Here is my bit of evidence. During a honeyflow, I found a colony acting as though it were queenless. A few days later, the bees seemed to be normal and gathering as much as any other colony.

On examining for surplus, I was surprised to find this colony ahead of others. Remembering the behavior of the bees in front indicating queenlessness and that queenless bees do not have brood to feed and so sometimes lay up more surplus, I thought I had better examine the brood chamber and learn the conditions.

To my further surprise, I found a lot of empty brood combs, cells all polished ready for a queen and a generous supply of pollen, some old sealed honey but no unsealed honey. I decided it was just a case of regular queenlessness and closed the hive. But the steady flow of incoming bees and the contentment aroused my suspicion, so I again opened the hive and examined every brood comb. A little to one side, I found several queen-cell cups on an edge of the comb but found no trace of brood in any stage or any eggs. Then I came to a frame with one well developed queen-cell and on the comb opposite, two nice looking cells about ready to seal. I could see one egg in each of these three cells.

I was puzzled. I gave every comb a second thorough examination to find eggs or larvae but found none. From then on, that brood chamber got regular examinations. The three eggs hatched and in due time were sealed; one queen emerged, the other cells were torn open; the young queen mated, headed the colony and seemed to be as normal as any other.

Where did those eggs come from? It appears to me they came from some other hive. This hive was at the end of a row and the space between it and its neighbor was not over a foot so I think bees do move eggs from one hive to another.

As to whether bees move eggs, other than from one hive to another, I have had this experience. One winter some years ago before coming from Indiana, there was a February thaw. All the bees flew with the exception of one colony. I felt sure it was queenless so I sent South for a queen and requeened in March. I found it queenless, the brood cells all polished up so I placed the cage, wire side down, between two frames, and waited for a warm day to examine it again. Fifteen days later, I found the queen still in the cage. As I lifted the cage and turned the wire side up I noticed what I thought to be an egg or two sticking to the wire screen on the cage. All the attendant bees had been removed at the time of introduction.

There were two workers inside the cage feeding the queen. The bees had eaten a passageway through the candy large enough for themselves to pass but not large enough for the queen to come out.

I waited and watched and presently saw two eggs protrude from the queen and drop on the wire screen. One of the workers picked up one of the eggs and began to wander about inside the cage. I could not see what she did with it but I thought I saw it disappear. Wondering what the condition was in the brood frames, I lifted them all out one by one. I found brood cells all polished up, many young queen cells but no eggs in any of them.

Finally I lifted a comb on which the queen cage had rested and found a sprinkle of larvae in the comb and on the side facing the larvae and immediately below the queen was a fair filling of eggs.

I could not find eggs or larvae anywhere else and after I had looked everything over, the combs were all replaced, the queen released and in due time the colony was normal. Now I am quite sure those bees moved eggs from inside the queen cage to worker cells below or else caught them as they passed through the wire screen.

Last spring I ordered packages of bees with queens from a shipper and hived them on full sheets of foundation. The queen was not released but placed on top of the shipping cage, the end touching a sheet of the foundation. The work was done at nightfall.

The next morning the queen was transferred to a specially prepared cage with a coarse mesh wire. A shallow cup was inserted in the compartment intended for queen cage candy and in this cup larval food and royal jelly mixed was placed for feeding the queen. The queen had no attendant bees. The cage was placed on top of brood combs and the bees fed liberally. The cup in the cage in which the food for the queen was placed, was so thick that feed for the queen could be easily replenished by using a medicine dropper.

The queen began to enlarge to egg laying size but seemed to be a long time reaching the egg laying mood. Before she did lay, ants and roaches invaded the hive and the queen was killed.

A second queen was secured and the hive made roach proof. In the interval, the worker bees manifested their hopeless condition by an abundance of drone comb and the presence of laying workers. At the time the new queen was put in the special cage again, drone eggs from laying workers were fairly piled into the drone comb. Several embryo queen cells were built.

The second queen was kept this way for about two weeks, fed by the bees and by myself, using royal jelly from worker cells from other colonies with a medicine dropper to refill her big cup.

A queenless colony was found in the yard and thinking it of more importance to requeen this colony, I removed the queen from the experimental colony and gave her to the queenless colony and then left matters take their course. I had examined the experimental colony and found drone larvae and a few of what I took to be eggs in worker cells. In due time the drones emerged and I felt that the eggs in the worker comb had developed into worker bees, but I was not sure.

I remembered in the accidental case in Indiana, that the worker bees had access to the queen by entering the cage through the hard dry candy and that the queen had been fed by them instead of by myself so I selected a comb honey section box about three fourths full of empty worker comb and made of it a miniature observation hive. I secured a queen shipped in a long distance eight hole cage, and asked the shipper to fill the cage as full of attendant bees as possible. The bees were released on the section box comb through a small piece of queen excluding zinc and they were fed through a one hole feeder, using a two and one-half ounce individual glass honey container.

A supply of honey was dug out of a pollen comb from a large brood frame and placed in one corner of the section box bottom. The bees were given access to the field through a one foot and a half, inch galvanized pipe, and the whole outfit being rigged up on my screened-in porch where I could watch.

This was about the most interesting experiment of the year. The bees took a cleansing flight and at night clustered upon the wire side down of the queen cage. By morning I could see that the queen had begun to enlarge. Pollen was gathered up and placed in the combs and later also I

saw bees at the entrance crawling into the little hive from the field loaded with pollen. Honey was taken from the feeder and stored in the comb and before the experiment was over, some of this honey was sealed.

A very close watch was kept on this little hive. In spite of my close watching, I found eggs in a few cells without seeing them placed there. I felt disappointed at that, but after close watching I finally saw an egg protrude from the queen, a bee take it up and march right out of the age, down among the other bees but I failed to watch her closely enough to see what she did with it.

Finally after long watching, I saw an egg taken from the queen just as it was about to fall through one of the coarse meshes of the screen wire. Many of the bees were in the field or at the entrance, so I could watch this particular bee and follow her readily as she passed down the side of the comb. Just before she stuck her head into a cell, I could see clearly that the cell was empty. I was standing at just the right distance and the light was favorable so I could see the egg clearly between her mandibles.

She crawled well into the cell and remained there for what seemed to me an unreasonably long time. Finally she backed out and sure enough, there was the egg at the bottom of the cell just about on the floor. It did not seem to stick as when deposited by the queen.

Later, I saw this performance repeated again. Both sides of the little comb became well filled with eggs but not regularly. In a few days two queen cells one on each side and on the edge of the comb were built around eggs. The eggs in the worker cells hatched first and were being fed before the eggs in the queen cells. There was some difference in the time of hatching of the eggs in the queen cells due no doubt to the difference in the time when these two eggs were produced by the queen and their deposition in the cells.

In due time the queen cells were completed, so was the worker brood. I was in a quandary to know just what to do when the time came for the first queen to emerge. I decided I would not allow the virgin to murder the old queen so I introduced the old queen to a full colony where she subsequently proved her full value.

When the first virgin emerged, it was interesting to see her movements. The other virgin was quite a little younger but the first virgin took no chances. She took her own good time to attack the other queen cell and when she did, she went at it hard, good and plenty. She seemed to rear up and come down on the side about as the mocking bird does. The mocking bird comes down with its sharp beak at a dry hard acorn sometimes driving the bill so deeply and tightly into the tough shell, that the beak is wedged. Then there is a fluttering and scratching and beating, sideways and other ways until the beak is freed.

The worker bees seem to help the queen or at least they gave encouragement. It was not long until a good sized hole was made. Then the queen inserted her sting. There was a slight shiver and the queen passed on seemingly looking for other cells. The workers soon enlarged the opening, pulled the dead larvae from the cell and on out of the entrance, to the ground.

This queen mated. The worker brood emerged and as far as I was able to see, proved to be normal. The bees built more combs, just about filling the balance of the section and I removed the queen to a full colony where she did her duty. The little observation hive was allowed to requeen itself and at the approach of winter, it was united with a full colony.

Do bees move eggs? Yes, they certainly did in this case.

Honey Vinegar

By John Gray
California

Sugar water — that is, any juice containing sugar, molasses or honey thinned with water, or other liquid sweet — will ferment, and produces alcohol. Then it ferments again and the alcohol turns to acid we call vinegar. Apple cider usually contains about 5 per cent of sugar. The first fermentation gives "hard" cider —that is, a liquid containing 5 per cent alcohol. This is so small an amount that it ferments again, giving 4½ per cent vinegar.

It only requires three-fourths of a pound of honey to the gallon to make the water as sweet as ordinary cider, and fermented would yield the same strength vinegar. Apples must be collected and pressed, requiring considerable labor besides the cost of the apples. The very best honey can be made into vinegar at profit, whereas dark, poor grade, even dirty honey, makes the best vinegar, because people like a vinegar with color, being used to that made from cider.

In the process of fermentation, dirt in vinegar stock comes to the top and can be skimmed off, or goes to the bottom and stays with the dregs when the alcohol stock is drawn off after the first fermentation. Dirty honey makes pure vinegar. It puri-

Barrel, with tubing leading into bottle of water for gas escape during fermentation stage of making honey vinegar (Russell Kelty, Michigan).

fies itself in the two fermentation processes.

It takes vinegar to make vinegar. Cider is usually pressed in late fall. It soon gets "hard" and by spring is good vinegar. The sugar in the juice first turns to alcohol, and the cool weather prevents evaporation, so by spring the 5 per cent alcohol has turned to acetic acid. Winter air contains less mold spores or none at all, or they are less active. Start your honey solution in late fall, is the only way honey vinegar can be made without vinegar.

A five-gallon can of honey will make forty gallons of double-strength vinegar. On being reduced by half with pure water this is eighty gallons equal in strength to that made from cider. There is no vinegar superior to that which can be made from honey. Bee men are missing a chance to make money. There is always a market for good vinegar.

There are other substances in fruit juices besides the mere 5 per cent sugar mentioned that furnishes food for yeast spores to work in that causes the sugar to turn to alcohol. These substances are absent in water sweetened with honey. To a barrel containing forty gallons of honey water one should add a few gallons of cider, or other fruit juice, and then a cake of Fleichman's yeast.

An even better way is to give the honey water a dose of salts. At any drug store get 4 ounces of ammonium chloride, 2 ounces potassium bicarbonate and 2 ounces sodium phosphate, and mix these with the cake of yeast in a quart of water and add to your honey water at once. Skim it each day till it comes clear on top. It takes about thirty days for the alcohol fermentation and to settle. It is handled best in open barrels. Remove it finally by use of a spigot at bottom, so as to leave dregs. Don't undertake to dip it out. It should be kept well covered during alcoholic fermentation to prevent evaporation.

After thirty days, draw off and put in other barrels and add not less than one-third to one-half strong vinegar that has not been heated. It will all be vinegar again in a couple or three months. If attempt is made to make vinegar in hot months without ample use of vinegar as a starter, loss is bound to result. Much will spoil entirely by false ferments and moulds that take possession of it. During the acid fermentation it should be kept covered with cheesecloth.

Does Your Label Tell the Truth?

By Natt Noyes Dodge
Washington

BEEKEEPERS, as a rule, who pack their own honey in jars and pails for retail sale, are quite particular about the labels which they use. The label identifies the packer and the product, and serves as a silent salesman. Commercial honey packers are not always as careful, as is illustrated by the following true story.

The wife of one of my neighbors is gradually becoming quite an enthusiastic user of honey, partly, I flatter myself, because I never lose an opportunity to eulogize the superior qualities of the natural sweet. I was, therefore, somewhat chagrined when she ran across the street the other day with a plate of honey cookies which she had made, and which her husband refused to eat.

"Jim just won't touch them," she complained, "and the truth is, I don't blame him. They're tough, heavy, and taste terrible. Honey is all right for table use, but I can't depend upon it at all for cooking."

After eating one of the cookies, I was forced to accept Jim's ultimatum. They weren't fit to eat. But what was wrong with them? Was it, after all, the honey? Or was it the cook, or the recipe? An investigation was in order, so I asked what recipe she had used.

"The recipe was printed right on the label," she informed me. "It called for three teaspoons of soda dissolved in two cups of warm honey, one cup of shortening with salt, two teaspoons of ginger, one cup of hot water; add flour to roll thin."

Now I know very little about cookery, but I am quite sure that three teaspoons of soda is enough to make anything taste funny, unless there is some acid ingredient, such as sour milk, in the recipe. Up to the time that scientific men became interested in the chemistry of honey, it was generally supposed that honey contained considerable acid. Since tests prove that honey is practically free of acid, any soda in the recipe is not acted upon chemically, and carries its unpleasant flat taste to the finished product. No wonder that the cookies "tasted terrible." Furthermore, there was nothing in the recipe to make the cookie dough rise. If honey was acid and needed the soda to neutralize it, the gas produced by this chemical action would make the dough light and fluffy. But the recipe was a failure and so were the cookies. Another housewife is straying from the "honey way," and all because the packer of the honey (in this case a commercial bottler) has a faulty recipe on his labels. Moral: have honey recipes on your labels, but be sure that they have been TESTED and proved delicious. Don't use some old recipe that someone's great grandmother developed. Fifty years ago folks may have liked cookies with "the soda flavor that lasts," but todays tastes are more discriminating.

But there is another chapter to this story. The lady purchased the honey because the label stated, "From apiaries producing only the finest of alfalfa and white clover honey." Now it happens that she especially likes clover honey. The packer in question buys his honey from beekeepers located in various parts of the state. Some produce one flavor of honey and some another, but the packer has only the one label. In this case, the label was on a pail containing a dark, strong, spring honey gathered from wild blackberry and maple bloom. (After listening to the lady's complaint, I tasted the honey.) It is quite different from the light, mild honey from alfalfa and clover. Not only does the packer have a faulty recipe on his label, but the statements regarding the contents of his containers are untrue. He has most surely lost one customer, and probably many more, as well as doing the whole honey industry a lot of harm. Moral: unless you are sure that you can pack a uniform grade of honey year after year, do not print on your labels any detailed statements regarding the flavor, color, and other particular qualities of your product.

To cap the climax, the following also appears on the label: "PURE BEE HONEY. A clean, wholesome, food product. Thoroughly strained and sterilized by the most improved methods. The contents have been scientifically treated and prepared for table use." And what message, may we rise to ask, is all that bosh designed to convey?

Many observing the bees flying into their hive suppose them best furnished that they see go home laden on their thighs; whereas oft times the others, that they see carry nothing, are better, being full freighted with honey. . . . Good actions are not always rewarded here, and therefore in vain do men set them out on beadroles for others to see. . . . So do good that thy conscience may be well stored in God's sight.—Culled from an early writer by W. H. Hull.

Review of Important Papers on Hive Temperatures During Summer

By W. E. Dunham
Department of Zoology and Entomology, The Ohio State University.

UNDOUBTEDLY many beekeepers are unfamiliar with hive temperatures occurring during the summer period. In a paper published recently in the Ohio Journal of Science a section was devoted to a review of previous articles on this phase of investigation. As this publication is inaccessible to most beekeepers, it seemed advisable to submit this review of important papers for republication in a journal which would be accessible to beekeepers.

Francis Huber (1791) who was one of the early investigators on bee life, made observations on brooding temperatures. He stated that in hives rearing brood during the month of January he had obtained the temperature of 93 degrees F. He criticized the statement of Dubost, of Bourgen-Breese, that larvae could not hatch below 104 degrees F. Huber stated that the ordinary temperature of hives in summer was from 95 degrees to 97 degrees F. One particular observation was made when the outside temperature was 94 degrees F. At the same time in the most populous hive it did not rise above 99 degrees F.

A. I. Root in 1899 made some observations on the proper temperature for brood rearing. He placed a self-registering thermometer in the center of the brood nest of a medium sized colony and found that the coolest temperature reached during the night period when the external temperature was below freezing was 92 degrees F. In stronger colonies he observed that the temperature registered 95 degrees F. on very cool nights. During a very hot day in August when the external temperature registered from 90 degrees to 95 degrees, he found that in a strong colony the highest point reached was 98 degrees F. In conclusion he stated that the temperatures most conducive for successful brood rearing within the hive, were between 92 degrees and 98 degrees F.

Gates in 1914 carried on extensive studies on the temperature within the bee colony during the winter and summer periods. Gates reported some observations which were made in 1908. On March 12th, he opened a hive and found eggs less than 3 days old. At a corresponding time, the course of thermometer c, which was in the region of egg laying, changed; and the inverse relationship which existed during the winter period was no longer apparent. He stated that the trend of the thermometer c was slightly upward during the warmth of the day which corresponded somewhat with the warmth of the outside temperatures. He said that there was a transition from winter to summer (a broodless condition to a condition of normal brood rearing) covering a period of two weeks. In the middle of the brood nest during the summer period, there was no appreciable correlation between the brood temperatures and external temperatures. The hive temperatore as a whole was independent of external temperatures, however, a few exceptions to this occurred. The temperature in the brood nest was remarkably constant, ranging from 93.2 degrees to 95 degrees F. The range of the oscillation showed the consistency of the temperature during the height of the season and the greater fluctuations in the spring and fall.

Brunnich in 1919 conducted some research work on colonies rearing brood. All of his observations were taken on weak colonies. Of 27 brood nest readings the temperature was 113.36 degrees F.; 17 were 104 degrees F.; and 7 were 105.4 degrees F. He said that brood did not tend to cool off the hive, but rather was a heat producer which could exist only in an environment of about 98.6 degrees F. He stated that his observations were probably more or less inaccurate.

Armbruster in 1923 published an article on the temperatures within the bee colony. This work summarized the observations carried on by Lammert in 1894 and 1895 and those of Gates in 1914. He referred to Lammert's notes concerning a swarm of bees hived in a burlap sack within which a temperature of 100.4 degrees F. was obtained. After 8 days, the time when a first swarm possesses a good brood nest, normal temperatures of 95 degrees were resumed. Armbruster continued to describe Lammert's work, but in conclusion he stated that this work agreed with Gates' observations in almost every case with the exception that Lammert's temperatures were somewhat the higher of the two. Armbruster commented on the few tables presented by Gates and explained that these tables became much more fruitful when arranged in graphic form. In brief, Armbruster believed that the brood nest temperatures never go below 93.2 degrees F. and seldom above 95 degrees F. He said that when the low level of 93.2 degrees F. occurred there was a direct response of the bees to prevent the temperature from becoming any lower; and that when the temperature reached 95 degrees F. there was a direct cooling off response by the bees so that temperatures would not rise above that point.

Hess in 1926 carried on some extensive experiments on the temperature of a colony of bees during winter and summer. He said that inside the brooding sphere 95 degrees to 96.8 degrees F. prevailed whenever extraordinary outside temperatures did not hold sway. He found a variation of only .36 degrees to .76 degrees F. during the course of a day, even though the outside temperature might cover a wide range of variation. He stated that the mechanical regulation of temperatures in bees is as steady as in humans; that is, they have an effective regulation toward low and high external temperatures. On a day in August, when the maximum outdoor temperature was 93.2 degrees F. he placed an electrically heated pad under a colony of bees and obtained a temperature over the honey comb of 104 degrees F., in the broodless region of 100.76 degrees F. and in the sphere of brooding of 96.8 degrees F. Hess thought that only the evaporation of water was effective in lowering the temperature in the brood area.

Milum in 1928 reported some of his observations. He said that apparently 91 degrees to 92 degrees F. were necessary to stimulate the beginning of brood rearing, but that this temperature did not need to be maintained for the continuation of brood rearing. Temperatures as low as 76.3 degrees F. were observed with no apparent ill effects on the brood except that it retarded development. During the spring period, temperatures of 85 degrees F. in the brood nest were not uncommon. When brood rearing had become well established in late spring and summer, the brood area ranged from 90 degrees to 95 degrees F. The highest temperature recorded by Milum was 98.2 degrees F. Temperatures above 95 degrees F. tended to cause the bees to hang outside the hive.

Vansell reported in 1930 a temperature of 108 degrees F. in the brood nest when external temperatures reached 116 degrees F.

"Sampson had found not his honey if he had not turned aside to see his lion. The mercies of God are ill-bestowed upon us, if we cannot step aside to view the monuments of his deliverance."—Culled from an early writer by W. H. Hull.

from the Little Blue Kitchen

Into Autumn's Fairyland.

Into the autumn's fairyland
  Our car—a coach enchanted—sped;
A magic spell was everywhere—
  The commonplaces all had fled.

The forests, woodlands were no more
  But seemed like canvases o'erspread
With futuristic fantasies
  In russet, yellow, flame and red.

The sky no more was sky, but bent
  Like sapphire dome where magically
Quaint forms and faces, traced of cloud,
  With charm-clear vision we could see.

The fields were Indian villages
  Where brown tepees in winrows stood
And spirits of a thousand braves
  Dwelt there in mystic brotherhood.

The day was not a day at all—
  A timeless song, a lilting rhyme
Sans clock, or bell, or slavish talk—
  An interlude of Heaven-time!

Lida Keck-Wiggins.

— : —

HERE is a very pretty little story Honey Lady has for Blue Kitchen readers today:

You all know of that beautiful poem "Trees," written by Joyce Kilmer? Well, the tree which inspired the verses stands in majestic beauty at a corner in Larchmont, N. Y. Mr. Kilmer gave his life for his country in the world war, but he gave his country something as great as a human life in the verses, sung and spoken everywhere still, which closed with,

"Poems are made by fools like me,
But only God can make a tree."

Honey Lady stood under the wonderful old oak where she learned that Mr. Kilmer used to wait for his commuter's bus each morning, and a feeling of awe came over her both for the glory of the tree, whose trunk is as large as the average round dining room table, and any one of whose graceful limbs would in itself make a tree, and also for the soul which conceived such an idea of the Maker of the tree . . "Only God can make a tree." It was Honey Lady's good fortune to have a tea given for her at which she met Joyce Kilmer's mother-in-law, who though in her seventies, is a poet of parts herself. Her name is Mrs. Horatio Alden, and she is the mother of Mrs. Kilmer, and a very wonderful example of youth in age. No one to see her would dream she was over fifty . . such a lovely skin, such bright eyes, such vivacity. She goes bathing in Long Island Sound each day with a bevy of grand-children, and had the day before the tea, been photographed by an elevator company, the "scene" being Mrs. Alden, looking quite worn out, dragging a child by the arm up the stairway, this to be used with another happy-faced mother and child going up in a modern lift. "I didn't mind looking tired," she said, "but I loathed the prison-like-looking clothes they made me wear." Mrs. Alden is the widow of the former editor of Harper's. "But why," you say, "is this incorporated in 'Blue Kitchen?'" I'll tell you why! Honey Lady knows all women like to hear of others who have grown old gracefully and graciously. This Mrs. Alden has, and the original poems she read were decidedly modern and up to the moment. ALSO when our hostess' rosey cheeked maid brought in the tea, the chocolate frosted cake served was so delicious somebody "piped up" and asked if it were home-made. The hostess, a lovely Englishwoman, smiled deprecatingly but replied "Yes, I baked it this morning." Asked for the recipe, she flitted back into her kitchen and brought out a neat-looking loose-leaf morocco bound book, turned to "cakes," and read:

Plain Cake

With ¼ cup of butter mix ¾ cup strained honey. (Here Honey Lady got out a wee note book always on tap in her purse, and raced after the reader with shorthand "tracks"). Next add two egg yolks and beat thoroughly, then add alternately ½ cup milk and 1½ cups flour in which 2 teaspoonfuls of baking powder have been sifted. Flavor with one saltspoon almond extract. Then fold in the two egg whites beaten to a fluff.

The lady added that she had sweetened the chocolate frosting with a bit of honey as well as with powdered sugar.

With this there was tea and anchovy butter sandwiches.

— : —

Now that eggs are becoming plentiful there are a number of delicious desserts possible, even if the New Deal hasn't dealt any too kindly with the cook as yet. Besides as it is still hot enough in September for cool drinks and frozen dainties, one may utilize both strained and granulated honey in many attractive ways and not be at too much expense for eggs, even if one hasn't one's own flock.

— : —

Here is a particularly delicious dessert. It is called

"Peach Icebox Pie."

And, if **your** folks like it as well as **our** folks do you'll say "thank you Honey Lady" for THAT tip.

Here's how we make it.

1 package lemon gelatine.

30 small vanilla wafers.

2 cups sliced peaches.

½ cup whipped cream, sweetened with dainty, mild-flavored honey (preferably white clover).

Roll wafers and line buttered pie plate with the meal. Prepare gelatine according to its own directions. When beginning to congeal pour into the crumb-lined plate. Chill. Then add the peaches and honey-cream.

You'll say "yum yum" when you read this and when you've made a pie like this, you'll say it over again and then some!

— : —

Are you a member of a Ladies' Aid? If so I'll just bet you will be glad for a suggestion of a new fruit punch in which you and any other beekeepers or beekeepers' wives can contribute some of your surplus honey. Here is the way you make it, and I'm sure the punch bowl will be a very popular place at the next social or lawn fete.

Boil 2 cups canned grated pineapple with 2 pints of honey and 2 cups of hot water for 15 minutes. Then make a pint of strong black tea. Strain this and add to above mixture. Strain and set aside to cool. Add 1 pint of loganberry, or (grape) juice and the juice of 8 lemons and 6 oranges. At serving time add four quarts of cold water. A large piece of ice should be placed in the punch bowl to keep the "brew" icy cold to the last drop!

— : —

"Did the clerk treat you all right when you went in to pay your overdue telephone bill?" "Sure," laughed the lady queried, "I smiled at her first and what could she do?"

Call It "Flarva"

I noticed the article on page 278 of the July issue by Chas. Hofmaster "What is in a name?" [Mr. Hofmaster protests the undesirability of the name Foulbrood.—Ed.]

I am only an amateur beekeeper with a few colonies but this proposal to change the name of American Foulbrood strikes me of great importance to beekeepers, especially the commercial beekeeper. It de-

serves more attention than the simple line at the end of the article by the editor suggesting that the trouble be designated as "Bacillus larvae."

I believe this suggestion is a poor one because the change is somewhat of a jaw breaker; it lacks simplicity and it would not be used because of these two facts.

I think that the article is of such importance as to call forth an editorial urging that something be done about the name so that all beekeepers professional and otherwise will get into action. I will make my suggestion to change the name to "Flarva," a contraction of foul larva. Let's hear from others and adopt a different name than Foulbrood.

Wm. Hahman,
Pennsylvania.

[I am willing to have a vote on it. I am not in favor of coining a new name which would not be accepted by most of the beekeeping public. Let us call it by its scientific name which has the advantage of being accepted all over the world, "Bacillus larvae."—Ed.]

The Demand for Quality Price

By Walter H. Hull
Virginia

The desire of the public for quality produce seems to be well understood. The degree to which people judge quality by price is not so well established. I had been arguing for what I considered a more popular price on honey, a price as low as consistent with a fair percentage of profit, depending on increased volume of sales to make up for the lower price, when an ex-grocer gave the following experiment, which he had tried repeatedly:

A big cheese was cut into four quarters which were placed on the counter and labelled respectively 25, 30, 35 and 40 cents per pound. And believe it or not, the 40 cent quarter was invariably sold out first.

I still think that my argument was sound, as arguments go, but it was based on a false premise, i. e., on the assumption that the buyer knows what he is buying; whereas the fact is that more often than not he does not know. A beekeeper would not be likely to pay 40 cents for a 25 cent package of honey, but he would be just as likely as any one else to pay 40 cents for a 25-cent pound of cheese. So there you are. When the public comes to know honey we will have to depend on volume of sales for our profits. But as long as there is an active demand for quality price it would seem too bad not to supply that demand.

By G. H. Cale

WELL, we've tried that Beach furnace and melting tank. (June page 212.) Built a tank to set over a hole in the ground to serve as a furnace. It would be better if the melting tank were set on a brick rim high enough to keep it off the dirt and so prevent its rusting out. We added a hinged cover, with weights to help in the lift. The wax runs out through a pipe and trough into a sixty pound can at a convenient level in a ground hole. Cans may be set away as filled and covered with burlap to cool slowly. Refuse slumgum helps to keep the fire going.

It does take the wax out of the refuse, old combs and so on, in a merry trickle but leaves some wax behind. Not as good as a press. The frames can be boiled in clear water, set aside to dry and refitted with foundation. Make the tank so the hives or supers of combs can be set in with the combs right in place. Then the hive bodies and super shells can be cleaned as they are removed, ridding them of all propolis and wax.

—o—

Perhaps there is no operation in beekeeping with more variations in method than those given for queen introduction. It seems to sift down entirely to a question of behavior. If the behavior of introduction is well understood any method will work. **Bees readily accept a laying queen during a honeyflow.**

Queens reared in the same apiary introduced to any working colony, made queenless during a honeyflow, may be run in at the entrance with smoke, and nine out of ten will be accepted. When the queen is received by mail and has not been laying for some time, if a chance is given the bees to feed her so egg laying is stimulated she will be accepted readily. So we leave the queen in her cage in the care of the bees, to feed her and release her slowly. I doubt if hive odor, so often thought necessary for the new queen to acquire, has much to do with acceptance. Perhaps it is better to remove the attendants that come in the cage with the queen, although we have tried introductions during a honeyflow in lots of fifty, with and without attendants, and see little difference in the number accepted.

When there is no flow, introductions are hard. Why fool with them? There is another honeyflow coming. If requeening has been neglected during the proper time, try again in spring. There are several light flows here in spring when queens are readily accepted. Sometimes they are more quickly accepted during a light flow than when nectar is coming in so plentifully that all the hive is full.

—o—

Quite a number have asked about the carbolic acid way of removing honey, since last month's statement about its use. Do we use full strength acid? Yes, we do. Get liquefied phenol, chemically pure, at the drug store. It is rated a dangerous poison so tell the druggist the use you have for it. Then, be cautious. It's chief offense is that it burns flesh so readily. A trickle of it on my arm a month ago made a quick, deep burn which is only now healing and will leave a light scar for some time. Handle it with great respect.

Use it full strength. You will use less of it and it will not dissipate as quickly as diluted acid. Sprinkled on a cloth tacked on a frame, and placed over the super, it drives the bees out rapidly, especially on a warm sunny day. It will not harm the honey or the bees. The bees are so irritated by it that they come from the hives in haste and cluster outside until you are through. They get a bit mad about it too.

—o—

Let's repeat again—the chlorine treatment for combs will not work in a practical way. Some of the supers and combs treated in chlorine over two years ago were put into use this year, after being aired and the supers sun baked all this time. Super shells still smell offensively and when used to protect feeder pails in feeding, the pails were tarnished by the gas that still comes from the wood.

Supers of new comb, built from fresh foundation, in chlorine treated frames, were actually avoided by the bees. Every such super used showed a consistent loss of honey stored. Combs used after treatment will not work at all as the bees tear them up and refuse to store in them for a long time. When they do finally use the comb, the honey may be entirely spoiled by the residues of treatment. It often tastes bitter and even the best of white honey is rendered unpalatable. No more of it for us.

THE EDITOR'S ANSWERS

When stamp is enclosed, the editor will answer questions by mail. Since we have far more questions than we can print in the space available, several months sometimes elapse before answers appear.

TO MAKE HONEY MEAD

Kindly oblige with recipe for making "Mead"—the old fashioned honey drink.

NEW JERSEY.

Answer.—Mead or metheglin is made by boiling honey with water, in the proportion of from five to ten of water to one of honey, according to the strength we wish to have in the drink.

After it has been boiled and cooled, add to it a certain quantity of juice of fruits, apple, berries, or grapes, the latter preferred. The more fruit juice you will use, the quicker it will ferment. Keep it in a barrel or a cask, with a bag of sand on the bung hole, so that the gas may escape.

After a few weeks or a few days, the drink will cease fermenting. If you wish to make vinegar, add a little vinegar to the liquid.

When it is thoroughly fermented it should be bunged up or bottled up.

LAYING WORKERS

I have one stand of bees that are queenless and the worker bees are laying. Will you please tell me what is best to do? They have plenty of bees and plenty of honey.

KANSAS.

Answer.—A colony with drone-laying workers is hard to bring back to normal. But one sometimes succeeds.

Take a comb of brood and young bees from some healthy colony and exchange it for a comb from this hive.

After two or three days, give the colony a ripe queen cell and place this on the comb of brood, in some central place.

If this does not succeed, you may be able to introduce a laying queen, in the colony, by the cage method.

If neither of these methods succeeds, then the only thing left to do is to unite this drone-laying colony to some strong colony in your apiary. Sometimes, trying over these methods two or three times brings success, but it is usually a mistake to waste too much time on a drone-laying worker colony, as they promptly lose all value. If you are not very desirous of saving it, you may find it to your advantage to break it up right away and unite it, piecemeal. with good colonies.

FEEDING—REQUEENING

(1.) We are having terribly dry weather here. Small grain is about all gone, but corn and potatoes are O. K. yet. My bees are not getting very much honey and I am afraid I may have to feed them. Would you advise feeding in open troughs or with individual feeders?

(2.) What proportion of sugar would you advise me to use? I have 200 colonies.

(3.) I would like to do some requeening with queen cells. Will requeening work all right now? If I put queen-cells directly into old colonies would they be apt to swarm out or desert? Would you advise putting queen-cells in old colonies or nuclei? I intend to keep the old queens either in nuclei or in the old hive until new queen is laying, as a safe-guard. Please comment. I generally buy my queens so am somewhat ignorant when it comes to raising my own queens. In 1929 my bees averaged 200 lbs. of surplus, but each year has been getting worse. This year my bees have practically no surplus thus far and I am worried stiff.

SOUTH DAKOTA.

Answer.—(1.) I would never feed bees in the open. First you may cause robbing and the strongest colonies would get the largest amount. Then you might be feeding neighboring bees that did not belong to you.

(2.) We would use about two pounds of sugar for each pound of water. But if you feed in warm weather, you may use as much as a pound of water for each pound of sugar. However the thicker syrup would be stored more promptly. It would need but little evaporating.

(3.) If there is but little honey in the field, the bees would not be likely to swarm when you requeened. Take out the queen one day and put the sealed queen cell in the next day. Be sure and put it in a central spot of the hive. You may rear your queens in nuclei, but if you do not intend to rear queens for sale, nuclei would be of no use to you, after you got your queens reared. Of course it will be advisable to keep a few queens in nuclei until the hives are all provided.

Rear your queens from your best breeders.

Your report of 200 lbs. average is fine, but such results are apt to spoil the beeman who often thinks he can have that every year.

EXAMINATIONS—SUN EXTRACTOR

(1.) I look at my bees once a week regularly, is that too often?

(2.) How could I make a sun wax extractor?

(3.) I have put partly drawn section and shallow supers on them but they will not work in them. Instead they are filling every available cell in the brood chamber and I am afraid that they will swarm.

(4.) I hived one swarm but the next day they all left except a small handful, what was the matter with them?

(5.) I now have three colonies and never expect to have over ten or twelve, what size extractor would you suggest?

MISSOURI.

Answer.—(1.) Sometimes it is necessary to look at your bees oftener than once a week, when they are short of stores. But most of the time they do not require looking after as often as once a week. Use your judgment as to what they may need.

(2.) To make a sun wax extractor, make a shallow tin pan, sloping to the center with a trough running out, then cover it with a glass. It is usually cheaper to buy a sun extractor than to make one.

(3.) Usually extracting supers, with combs already built, are quickly accepted by the bees, but sections are not so readily adopted. Much depends upon the weather and the condition of the honey crop.

(4.) I cannot tell what was the matter with that swarm. Did they have a laying queen?

(5.) For that number of colonies, any extractor large enough to take your brood frames will be ample.

RACES—HIVE WOOD

(1.) In the ads in the American Bee Journal Italian bees are listed as "three banded," "golden" and "leather colored."

(2.) Cypress being a much longer lasting wood and much cheaper than white pine can you tell me if there is some objection to its use for hive bodies and supers, or why it is not used?

NEW YORK.

Answer.—(1.) Pure Italian bees are all three-banded some being leather colored, others golden. In this country much more importance is paid to color than in Italy, as our breeders are all afraid of a mixture with the common black bee. Therefore some people prefer the golden bands. We prefer the leather-colored, three-banded bees.

(2.) We think the reason why the hives are usually made of pine is that first class pine is easier to get than cypress. A good hive of pine, if cared for will last as long as the owner of it and perhaps longer.

FIGHTING DRONES

Tell me why one hive of bees at this date (June 1st) will fight all drones that try to come back to the hive; there isn't much nectar at present, it is about seven or eight days before sweet clover blooms.

I have about 20 hives I run for honey and also 30 hives and nuclei that I raise queens to sell and none of these hives are doing this.

MISSOURI.

Answer.—Your second statement, "there isn't much nectar at present," will answer the question in the first "why are they doing it?"

When there is no honey in the field, the bees drive the drones away. If they do it more in one hive than in the others, it must be that they are shorter of stores in that hive than in the others.

Probably by this time your bees will have ceased fighting the drones. "Fighting" is hardly the proper word, for the drones never offer fight. They are dumb brutes that are always driven.

GIVING QUEEN CELLS

(1.) I have divided my strongest colony of bees leaving the frame with the queen on the old stand and placing the rest of the hive in a new location. I made the division on July 20 and noticed that there were a few drones and a few patches of drone brood in the hive, also that honey was coming in.

I wish to introduce queen cells from this moved hive into two other hives. Can a frame with a sealed queen-cell be given to a colony immediately when the old queen is removed without protecting the queen-cell? How long after the division of the colony should the queen cells built in it be given to the colonies, to be requeened?

(2.) Is it safe to give a whole frame with a sealed queen-cell to an American foulbrood colony that has been shaken and after three days shaken again, onto full sheets of foundation? Can the queen of this treated colony be caged during the three days and then be replaced immediately by the queen-cell on a full frame as mentioned above? Should the queen-cell be protected?

IOWA.

Answer.—(1.) A comb with sealed queen-cell may be given to a queenless colony about 24 hours after the old queen is removed. You must give the bees time to notice that they are queenless before giving them a sealed queen cell. We usually make the first division as you did, then wait nine days before counting the queen cells that the hive can supply. On that ninth day, we make as many hives queenless as we have queen-cells, less one for the colony itself; then we insert those queen cells in the hives, the following day, or the tenth day.

There is only one fault with this method. It is that when you make your first colony queenless you do not leave many bees in the old hive. But if the weather is warm as it should be, there will be no trouble.

(2.) If that treated colony has been treated right, it is no longer a foulbrood colony. It may be treated as the others mentioned above. Kill the queen on the ninth day and give the queen-cell on the tenth.

LOCATION—CAUCASIANS

(1.) I am located in the mountains of North Carolina. My bees are exposed to the sun all day with entrances toward the south. There is an orchard that I could place them in but the entrances would have

to face the north-east. Which will be the better location?

(2.) I introduced six Caucasian queens in strong hives last spring which were secured from a southern breeder. They began laying very prolific but one almost stopped in about two or three weeks. Then just after the tulip tree flow was over another one stopped laying and the bees superseded her from some of the last eggs that she laid. She remained in the hive until the young queen hatched. What is the probable cause of this or is it characteristic of the race? Italians and Carniolans continued to keep the brood nest full under the same conditions.

(3.) Do you think that there will be a sufficient rise in prices of bee supplies to justify buying now or next season?

NORTH CAROLINA.

Answer.—(1.) I believe you have the better location. But it would be much better to protect your hives from the sun, with boards or by making movable roofs. Or you might shelter them with a little corn fodder or some rushes.

(2.) No, the failure to lay is not a characteristic of the Caucasians. It is quite probable that the queens in question were defective or too old. Something else may have been the trouble with them. I don't know.

(3.) I wish there could be a rise in prices of supplies, but I do not believe there will be unless there is also a rise in the price of beeswax which would make foundation more expensive. I believe you will be safe in waiting till next season.

Finding the Queen

On page 294, Mr. Fontaine gives us a laborious way to find the queen. Let me suggest one which is easier but which will give as good results. Experts and large beekeepers will seldom use this method and I never use it except with colonies which have dark queens or which are vicious. I usually am able to find the queen in a normal colony in about a minute simply by examining the combs.

Now for the easy method. One needs two excluders. To one, nail a 2 inch rim of half inch stock, using two pieces 20 by 2 and two pieces 15 by 2. Lay this deep excluder over the hive body in which the queen is. Put the second hive body on top if there is one or an empty body. Smoke and drum the hive a few minutes. Usually five minutes is enough. The bees will rush upward carrying the queen with them, except in rare cases. Sometimes the queen may run into a pocket of burr combs and is thus delayed.

Remove the special deep excluder and place the second excluder over the open side. The queen will thus be enclosed. Replace the upper hive body now and close the hive. Lay your excluder carefully on the ground near the entrance of the hive and go on and do some other work for an hour. Most of the bees will enter the hive and the queen will be left in the excluder trap with a few bees and will be easy to find.

The whole operation after the excluders are prepared will not take ten minutes of one's time.

Allen Latham,
Connecticut.

YORK'S BEES AND QUEENS

ARE BRED FOR BUSINESS.

RETURN MAIL SERVICE ON QUEENS IN SMALL OR LARGE QUANTITIES.

UNTESTED ITALIAN QUEENS, 75c EACH; 3 FOR $2.00; 10 FOR $6.50 OR $50.00 PER 100.

PACKAGE BEES IN SEASON, WRITE US.

LEWIS BEEWARE AND DADANT'S FOUNDATION AT CATALOG PRICES.

YORK BEE CO., The Universal Apiaries, JESUP, GA.

Dollar Books on Beekeeping

FIRST LESSONS IN BEEKEEPING—By C. P. Dadant.
Answers most of the questions of the beginner. Seventh edition. 167 pages; 178 pictures; cloth bound.

THE DADANT SYSTEM OF BEEKEEPING—By C. P. Dadant.
How bees are managed in the big hive A year round, practical description of beekeeping. 118 pages; 60 pictures; cloth bound.

OUTAPIARIES—New Edition—By M. G. Dadant.
Second edition, revised; sixteen new pages. Covers equipment; management, and location. 116 pages; 67 pictures; cloth bound.

PRACTICAL QUEEN REARING—By Frank C. Pellett.
Fourth edition, revised. Brings entire subject up to date, giving the latest advances in this important part of beekeeping. 105 pages; 40 pictures; cloth bound.

American Bee Journal -:- Hamilton, Illinois

Queens 25c each any number

If you have never tried Palmetto Queens give them a trial. Three-banded Italians only, every one guaranteed. Costs nothing to have your order booked in advance. No exchange on Canadian orders.

C. G. Ellison :: Belton, S. C.

Are you preparing for National Honey Week? A. H. I. will help you plan.

ACCREDITED QUEENS

Best Honey Producers. Swarmless, Gentle, Never had disease of any kind. Price Balance of Season up to 50, 35c each; 100 lots, 30c each. Guarantee safe arrival, satisfaction.

Taylor Apiaries -:- Luverne, Ala.

Italians That Are
Outstanding Honey Gatherers

Gentle, prolific, litt'le inclined to swarm and very fine cappers. The kind you have always wanted. Untested balance of season, 50c each, any number.

M. P. Ilgenfritz, Jr., Castleton, Md.

CAUCASIANS

have all the good traits of Italians, plus extra gentleness, less swarming, more prolific, longer tongues, less robbing and more dependable workers. Wintered here out of doors, and bred in a climate like their native land—severe winters, cold windy springs—thus insuring their good qualities. Breeders from Prov. Terek, Caucasus.

CARNIOLANS

Prolific at all times, very gentle, best of winterers, build up rapidly during the changeable weather of spring, build beautifully white combs, and most excellent workers. One customer reports an average of 435 lbs. per colony, extracted, spring count, for the whole yard of over 50 colonies. My own and Jan Strgar imported strain.

Prices both races:

1 untested queen	$ .50
6 untested queens,	2.75
12 untested queens	5.00
Tested queens, each,	1.00

Put in some of these fine queens during September and October to begin the season of 1934. Replace all old and failing queens and those cross ugly colonies with gentle bees.

ALBERT G. HANN
Glen Gardner —:— New Jersey

BETTER BRED ITALIAN QUEENS
25c each, any quantity.

Select Breeders	$2.00 each
Special introductory offer, 10 queens,	$2.35

Queens will be much higher next year, why not requeen now while you can get good quality queens at bargain prices.

CALVERT APIARIES, CALVERT, ALA.

An adequate supply of Dadant's Crimp-Wired Foundation will assure you fine combs next season. You are doubly protected, too, when you know it is made of pure beeswax.

DADANT & SONS, Manufacturers, HAMILTON, ILL.

Are You Doing Your Share?

"NOTE THAT MANY STATES ARE WITHOUT HONEY RECEIVERS! IF YOUR STATE IS OMITTED, WON'T YOU VOLUNTEER TO DO YOUR BIT AND ACT AS A RECEIVER? WRITE LEWIS PARKS, CHAIRMAN FINANCE COMMITTEE, WATERTOWN, WISCONSIN."

AMERICAN HONEY INSTITUTE HONEY RECEIVERS

—o—

These individuals and firms have agreed to take in honey donated to the American Honey Institute, sending a check to American Honey Institute, 417 North Few Street, Madison, Wisconsin, for the value of the honey at the market price, less the freight:

Arizona, Bee Kist Products, Inc. 8272 Jefferson St. — Pheonix
California, George J. Brown — Fresno
California, Geo. L. Emerson, — Los Angeles
California, H. M. Krebs — Sacramento
California, Roy K. Bishop — Orange
California, C. A. Wurth — Riverside
California, A. L. Matthews — Ceres
California, R. O. Brand, — Corning
California, Mrs. Althea P. Marks — Santa Paula
California, Daniel J. Snook, 4519 Acacia St. — La Mesa
Colorado, Colo. Honey Producers Ass'n. — Denver
Connecticut, Allen Latham — Norwichtown
Florida, W. K. Lott, — Box 480, Orlando
Illinois, Dadant & Sons — Hamilton
Iowa, Sioux Honey Association, — Sioux City
Kansas, J. F. Garner, Mgr., Clover Hill Apiaries Co., — Sabetha
Louisiana, Geo. W. Bohne — Luling
Michigan, M. H. Hunt & Son, — Lansing
Michigan, A. G. Woodman Co. — Grand Rapids
Minnesota, B. I. Evans, Windom
Minnesota, Earl W. Rood — Mankato
Minnesota, A. I. Root Co. — St. Paul
Minnesota, P. J. Doll Co. — Minneapolis
Minnesota, G. C. Mathews — Minneapolis
Minnesota, M. W. Couisineau — Moorhead
Minnesota, Standard Lumber Co. — Winona
Nebraska, O. S. Bare (Extension Specialist) College of Agriculture — Lincoln
Ohio, Fred W. Muth Co. — Cincinnati
Ohio, E. W. Peirce Co. — Zanesville
Oregon, S. D. Williams, 5125 82nd Ave. — Portland
New Hampshire, Geo. C. Barton — Meriden
New York, E. T. Cary (Midland Ave. & Tallman St.) — Syracuse
North Dakota, Chas. Engle — Fargo
South Dakota, Lothrop Nursery Co. — Aberdeen
Texas, T. W. Burleson — Waxahachie
Utah, Superior Honey Co. — Ogden
Wisconsin, James Gwin (Dept. of Markets) — Madison
Wisconsin, A. H. Seefelt — Kewaskum
Wisconsin, George Jacobson — Kaukauna
Wisconsin, Edward Hassinger, Jr. — Greenville
Wisconsin, Ed Byrns, County Agent, Wash Co. West Bend
Wisconsin, Charles Roy, — Sparta
Wisconsin, J. Willard Hall, — Readstown
Wisconsin, A. R. Lawton, — Viola
Wisconsin, Charles Heisel, — Rockton

Send your donations of honey to the receiver nearest to you.

AMERICAN HONEY INSTITUTE

417 N. Few Street **Madison, Wisconsin**

Wanted Amber Extracted Honey

Send Samples and best price Frt. Paid to Cincinnati, O.

THE FRED. W. MUTH CO.

MEETINGS AND EVENTS

Saskatchewan Beekeepers' Convention

The Saskatchewan Beekeepers' Association eleventh annual convention held at the Hotel Saskatchewan, Regina, July 27, was a splendid success. There was a good attendance for all the meetings and the luncheon. Over eighty beekeepers registered.

The presidential address was given by Thos. H. Mack, and an address of welcome by Hon. W. C. Buckle, Minister of Agriculture.

The following were the speakers for the day: S. O. Hillerud, Provincial Apiarist, Alberta, "Package Bees and American Foulbrood" and "Alberta Honey Flows"; L. T. Floyd, Provincial Apiarist, Manitoba, "Package Bees in Manitoba"; C. B. Gooderham, Dominion Apiarist, "Export Opportunities and Grading of Honey for Export," and R. M. Pugh, Provincial Apiarist, "Beekeeping in Saskatchewan."

A luncheon was served at noon at which the following speakers were heard: J. B. Munro, Deputy Minister of Agriculture, British Columbia, and F. H. Auld, Deputy Minister of Agriculture. W. Waldron, Co-operation and Markets Commissioner, made some interesting remarks regarding the British market.

The secretary's report showed that the association had a successful year and now has an active membership of 500.

Messrs. L. T. Floyd, S. O. Hillerud and C. B. Gooderham were named honorary life members.

Officers elected for 1933-34 were H. D. Pickett, K. C., Moose Jaw, Honorary President; T. H. Mack, Lumsden, President; Walter Dunavan, Crichton, Vice-President and R. M. Pugh, Secretary-Treasurer. Directors: J. G. Carr, Govan; George Murray, Saltcoats; Leo Roll, Yorkton and Mrs. W. E. Carey, Windthorst.

Yakima County Meet

At an all-day meeting in the Wapato city park July 27, members of the Yakima County Beekeepers' Association decided to urge the Yakima county commission to provide bee inspection, which has been dropped by the state.

Unless the inspection is resumed, diseases will spread and the colonies become depleted rapidly, the apiarists declared. They claimed that the service would not be costly, as a county beekeeper, familiar with the diseases and their treatment, could be obtained for inspector.

W. C. Wixom of Wapato, with Robert Immele of Toppenish, was named to confer with the county commissioners.

J. O. Kane of White Swan, C. W.

Higgins of Wapato and Theodore Sires of Yakima were appointed on a committee to confer with Donald L. Saunders, county extension agent, for information as to whether the beekeepers will be included under the national agricultural code.

Due to the new standardization laws, grading of honey will be necessary, and the association has started plans to purchase a government grader. The members proposed having the organization buy the grader, and place it in a central position so that all members can use it. C. H. Shader and Mr. Higgins were appointed on a committee to investigate the prices of the equipment.

The meeting was so successful that it was voted to hold another outdoor affair in Olney Park in Toppenish, August 31. I. L. Neill.

Potato Spray a Menace

Arsenate of lead spray used for potato bugs in this district is proving a menace to bee yards, beekeepers have reported. Serious damage to colonies has been reported by many growers, some estimating that one-half to two-thirds of their bees have been destroyed. Many colonies have been so depleted no honey will be produced this year. I. L. Neill,
Washington.

Texas Beekeepers Meet at College Station, July 24, 25, 1933

For the thirty-second consecutive year the Texas Beekeepers met for their annual meeting at College Station, Texas, this being the fifty-sixth annual meeting of the Association. A larger number than usual attended the meeting but the personnel was very different from that of former years. Only a few who have been engaged in beekeeping for some time or commercial beekeepers were present. The bulk of the audience was made up of those who have returned to the farm and who have taken up beekeeping as a side-line. For the benefit of these one session was given over as a school of instruction for beginners. The major operations in beekeeping were handled by those who have had long experience in bee work. At the close of each talk the beginners were questioned as to their understanding of what had been said. This program was so popular that the Short Course management requested that it be repeated and also made arrangements to have a full day of such work at the regular meeting next year.

A report on crop conditions was such as to inspire the beekeepers with considerable confidence and to increase their faith in beekeeping. Differing from newspaper reports the account given by the beekeepers of their actual production shows that Central Southwest Texas is the only low producing part of the State this year, its average production being one-third of the normal, while the

HART
CRYSTAL CLEAR
HONEY JARS

Display your honey perfectly. Dependable service on standard sizes. Hart fluted honey jars are made to specifications of Standardization Committee of the American Honey Producers' League.

Distributed by
DADANT & SONS, HAMILTON, ILLINOIS
and
G. B. LEWIS CO., WATERTOWN, WIS.
G. B. Lewis Co., 1921 E. Fourth St., Sioux City, Iowa
G. B. Lewis Co., Colonie & Montgomery Sts., Albany, N.Y.
G. B. Lewis Co., 1304 Main St., Lynchburg, Va.
G.B.Lewis Co., Main, South & 16th Sts., Wheeling, W.Va.
A. G. WOODMAN CO., Grand Rapids, Mich.

HART GLASS MFG. CO., DUNKIRK, IND.

HART
BOTTLES & JARS

QUEENS 25c EACH

"DIAMOND"
Bright Italians
Requeen in September for safe wintering and as a swarm control measure for 1934.

QUEENS 25c EACH

Our "Diamond" queens will give you satisfaction. Scientifically reared for PRODUCTIVENESS and GENTLENESS. Immediate shipment.

IF PACKAGE BEES WANTED—PLEASE WRITE FOR PRICE.

Health certificates furnished. Service and quality guaranteed.

GARON BEE CO. -:- Donaldsonville, La.

Mention the American Bee Journal When Writing Advertisers

A Brand New Set of Signs

Just What You Have Been Looking For —At Prices You Can Pay

HERE is a set of three outdoor signs made to accommodate the beekeeper who wants to sell his honey from house or roadside stand. Large attractive signs 18x30 inches with three-color effect and made of a material that will stand sun, rain and wind. **Folded edges.** This Duckine material in these signs is guaranteed to be waterproof. No sign can equal the lasting qualities of a metal sign, but we have been looking for a set of signs that would be durable, attractive, of large size, and still be cheap enough to warrant the expenditure of every beekeeper, even though he sells relatively little honey from his door.

Duckine Signs Are Water and Sun Proof

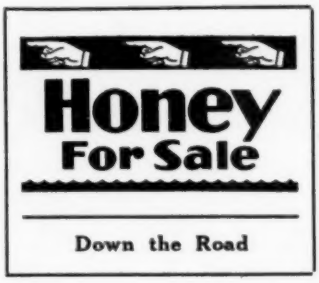
Attractive Signs Mean Readier Sales

Our price on this set of three signs carefully packed for mailing, and including postage to any point in the U. S. is only

$1.00 postpaid

Or if you wish to send in your new or renewal subscription to the American Bee Journal for one year at the same time, our price on the set of three signs postpaid together with a year's subscription to the "Old Reliable"—American Bee Journal is only

$1.50 all postpaid



Send Your Order Today Direct to

AMERICAN BEE JOURNAL
Hamilton, Illinois

Wanted White Extracted Honey
Send Sample and best price Frt. Paid to Cincinnati, O.
THE FRED. W. MUTH CO.

entire remainder of the State will produce up to 70% normal. The honey this year is either mesquite or cotton and is of high quality.

The discussion of the relationship between the Texas Beekeepers and the N. R. A. was discussed by Mr. T. W. Burleson who outlined the general plan of the Administration and reviewed the action of the called meeting of the Texas Beekeepers' Association and the Texas Queen Breeders' and Bee Dealers' Association summoned by E. G. LeStourgeon, Legal Advisor of both organizations to San Antonio, July 15. At this meeting a code was adopted and a delegate selected to represent the Texas Beekeepers at the meeting of the Southern Beekeeping Conference held in New Orleans to construct a code for the southeastern states. The Texas Beekeepers' Association by motion endorsed the action of the special meeting and instructed the Secretary to take any emergency action necessary to comply with the N. R. A.

The notable papers given at the meeting were: "The Plans and Aims of the Texas Beekeepers' Association," the presidential address by Roy S. Weaver, Navasota; "Thirty-two Consequent Years of Texas Beekeepers' Annual Meetings" by one who has attended each meeting, J. A. Moore, Agricultural Superintendent of the Dallas State Fair; and "Honey Plants and Factors Influencing Nectar Secretion," H. B. Parks.

It was voted to hold the next meeting at the A. & M. College Short Course and the following officers were elected: George M. Jeffus, Crockett, President; G. A. Stroope, Waxahachie, Vice-President; H. B. Parks, Route 1, Box 368, San Antonio, Secretary-Treasurer; Delegate to the American Honey Producers' League, T. W. Burleson, Waxahachie; Delegate to the Southern Beekeeping Conference, H. B. Parks.

H. B. Parks,
Texas.

Mid-Summer Meeting Cook DuPage Beekeepers' Association

The mid-summer meeting of the Cook DuPage Beekeepers' Association was held Saturday, July 29th, 1933 at the apiary of R. Meyers located at 149th and Indiana Ave., South Holland, Illinois.

This meeting was the best meeting we have held this year as to attendance and the spirit of friendliness and cooperation, with approximately 125 in attendance.

The guest speaker being Mr. Elmer Kommer, who spoke on "Why Every Beekeeper Should Be a Member of the Association," "Create Market for Honey," "Give Your Association a Better Showing in Asking for Appropriation," "Attend State Convention in November to be Held in Springfield, Illinois."

(Please turn to page 365)

Crop and Market Report

Compiled by M. G. Dadant

For our September Crop and Market Report we asked reporters to answer the following questions:

1. How is the total crop compared to 1932?
2. What price is being offered for honey, jobbing?
3. At what price are you holding your crop?
4. What should be the 5-lb. price? 10-lb.? Case No. 1 comb?

How Is the Total Crop Compared to 1932?

The honey crop, as a general thing, has been a disappointment over what had been anticipated a little earlier in the season. The variableness of the weather this year and a great amount of drought in many sections has cut the crop far below what had been anticipated. For instance, in the central western section the white clover crop looked like a bountiful one and started out so. However, three or four weeks of dry weather right in June when it should have been moist resulted in a great disappointment and in some places a crop failure.

Roughly speaking the northeastern sections are not having anything like last year's crop. It ranges all the way from 15 per cent in Maine to 95 per cent in Vermont. New York, usually a good producing state, reports not over 30 per cent of a crop this year and in many sections the worst drought they have had in thirty or forty years. Maryland and the Virginias will have almost a normal crop and North Carolina perhaps above normal. Georgia will have more than last year with a crop failure, but probably not over a normal year. Florida, however, reports extremely fine crops.

Tennessee may be 100 per cent but the balance of the South will run much below last year and this is particularly true of Texas, which will not have over 30 to 40 per cent of last year's crop.

Pennsylvania, Ohio and Indiana have suffered particularly this year and the crops in these states will not run over 15 to 35 per cent of last year. In Illinois it may run 100 per cent or in some sections which were favored with local showers, somewhat more.

Western Iowa and even some sections of eastern Iowa, at least wherever there is sweet clover, reports much better crops than last year and northwestern Missouri reports probably 300 per cent better with the largest sweet clover crop in many years. Arkansas is also better than a year ago.

In Michigan prospects which were excellent, later have dropped off, and there is probably only about 100 per cent this year, with somewhere the same in Wisconsin. Minnesota has been especially well favored in many sections with 100 to 300 per cent of previous crop. North Dakota is slightly under last year and South Dakota considerably under. Nebraska may, owing to late rains, run the equal of last year but Kansas will not do so, having only probably 50 per cent of 1932. Oklahoma runs somewhere near normal and New Mexico and Arizona about one and one-half times the 1932 crop. Colorado had a failure last year and will undoubtedly have more honey, although nothing near normal. Montana will have about 120 per cent and Idaho 200 per cent. Wyoming is short. Utah normal, and Nevada possibly so. In Oregon there is just about 100 per cent crop but California has suffered also and will not have over 75 per cent.

The crop in Ontario will run far better than last year, and should run at least equal in Manitoba and Saskatchewan with many more bees to gather the honey than last year. British Columbia will be in excess of last year.

All in all, it does look like the crops will not equal last year's figures and the carry over has been exceedingly small.

Jobbing Prices

Many reports have been coming in that buyers of honey are trying to get their stock this year at the same figures as they bought last year for. In some instances they are able to duplicate the price. However, the general tendency is for honey to sell from one-half to one cent per pound better than last year's prices and in some instances considerably more. We have heard of one carload of amber honey selling in California at 3½ cents, a carload of white Idaho and a car of Dakota at 5 cents and a carload of Michigan honey at 6½ cents, all f.o.b. shipping point. The latter three were white honey.

Prices Asked

The northeast is asking considerable more than last year and we would think the average on the white honey would run in the neighborhood of 7½ cents in large lots.

In the southeastern states the prices asked will run from 5 to 7 cents for good honey in large lots. In Texas the price is slightly below this but not very much variation. In fact, this seems standard price over the South.

Florida has sold some of its crop at 4½ cents and is asking for 4½ to 6 cents in large lots.

We learn of some Indiana lots being held at 8 cents and others at from 6 to 7 cents f.o.b. shipping point.

In Iowa, also, some beekeepers are asking from 6 to 7 cents for good white honey and the same rules in Missouri.

One of the largest producers in Michigan states that a price of 6½ cents will be needed to buy his honey.

All in all, it looks like the range of carlot or jobbing prices on honey would be in the neighborhood of 5 cents on white honey in the west, ranging as high as 7½ cents in the eastern points, with the Plains states and the intermountain in the neighborhood of 5 to 6 cents; and the central west 6½ to 7 cents.

MINIMUM PRICE SUGGESTIONS FOR 1933-4	Car Lot White	Car Lot Amber	C. L. Comb No. 1	10 lbs. to Grocer	10 lbs. Retail	5 lbs. to Grocer	5 lbs. Retail	10 lbs. Comb Ret.	5 lbs. Comb Ret.	1-lb. Jar to Grocer	1-lb. Glass Retail	Comb to Grocer	Comb per Section
Northeast	.07	.05½	---	1.30	1.65	.70	.85	---	---	.18	.20	4.00	.20
Southeast	---	---	---	---	---	---	---	1.20	.65	---	---	---	---
South	.05	.04	---	---	---	---	---	1.20	.65	.15	.20	---	---
Texas	.05	.04	---	---	---	.50	.60	1.20	.65	---	---	---	---
Southwest	.05	.04	---	.75	.90	.50	.60	---	---	---	---	2.50	.15
North Central	.06	.05	3.00	.95	1.10	.50	.70	---	---	.17	.20	3.50	.20
Plains States	.05½	.04½	3.00	.80	1.00	.45	.55	---	.75	.17	.20	3.00	.15
Intermountain	.05	.04	2.75	.75	1.00	.40	.50	---	---	.17	.20	3.00	.14
Pacific Northwest	.05	.04	---	.75	1.00	.45	.55	---	---	---	---	---	---
California	.05	.04	---	.80	1.00	.45	.55	---	---	---	---	---	---
East Canada	.08	---	---	.90	1.10	.55	.65	---	---	---	---	---	---
West Canada	.07	---	---	.80	1.00	.45	.60	---	---	---	---	---	---

We Are Cash Buyers of Honey and Beeswax
Submit samples, and best prices, freight prepaid Cincinnati. We also furnish cans and cases.
Fred W. Muth Co. Pearl and Walnut Cincinnati, Ohio

Renew Your Subscription
Write for Our Special Club Offers
AMERICAN BEE JOURNAL

Edwin H. Guertin 201 N. Wells St. Chicago
Buy and Sell All Grades Extracted Honey
References: 1st National Bank, R. G. Dun or Bradstreets Commercial Reports.

The BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require references of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

BEES AND QUEENS

THREE BANDED ITALIAN QUEENS that produce good workers and gentle to handle. Satisfaction guaranteed.
Alamance Bee Co., Graham, N. C.

GOLDEN Italian queens that produce good workers and gentle to handle. Satisfaction guaranteed. Select tested, $1.50. Tested, $1.00. Untested well worth 75c, now for 50c.
D. T. Gaster, R. No. 2, Randleman, N. C.

GOLDEN Italian queens, 30 cents each, any quantity. Good honey producers and gentle. A. M. Kelly, Bell, Florida.

CARNIOLAN and golden queens. Tested, 75c; untested, 50c. Bees 50c per pound.
C. B. Bankston, Buffalo, Texas.

QUEENS, QUEENS—Pure bred Italians, 40c each. Tested 80c each. They are sure to please you. Quality, service, complete satisfaction assured. Let us supply your needs.
Honey Bee Apiaries, Sandwich, Ill.

GOOD QUEENS for Summer and Fall Requeening. Gentle, productive, three-banded Italians. The kind you like to work with. Select young laying queens 35c each; three, $1.00; ten to one hundred, 30c each. Prompt shipment. Safe arrival guaranteed. No disease. We have one of the largest, best equipped queen rearing apiaries in the South. Accredited by the Alabama Dept. of Agriculture. H. C. Short, Fitzpatrick, Ala.

GOLDEN Italian Queens, balance of season, 35c each. Safe arrival and satisfaction guaranteed. Write for prices on June packages. E. F. Day, Honoraville, Alabama.

HARDY NORTHERN ITALIAN QUEENS, 30 years' experience, personally reared, honest dealing, no disease. One queen, 35c. Four queens for $1.00. N. J. Smith. Coopersville, Mich.

QUEENS WHILE THEY LAST, 25c each, any number. J. M. Cutts & Sons, Rt. 1, Montgomery, Ala.

HONEY FOR SALE

FOR SALE—Thirty tons Michigan's finest Clover Honey. Sample ten cents.
Ralph Blackman, Portland, Mich.

EXTRA FINE WHITE COMB HONEY, well filled. Also white extracted. Priced right.
O. R. Matthew, Virginia, Ill.

HONEY FOR SALE—Any kind, any quantity. The John G. Paton Company, 230 Park Avenue, New York.

FOR SALE—White clover honey in 60-pound cans. None finer. Satisfaction guaranteed. J. F. Moore, Tiffin, Ohio.

HONEY FOR SALE—Keep your customers supplied with honey. We can furnish white and light amber honey at attractive prices. Packed in 60-lb., 10-lb. or 5-lb. tins. Dadant & Sons, Hamilton, Ill.

FOR SALE—Fancy, extracted, white clover honey in 5-lb. and 10-lb. pails, and in 60-lb. cans. Write your wants and ask for prices. Emile J. Baxter, Nauvoo, Ill.

NOW ON HAND, new crop, Clover Honey. Case to Carload in new 60-lb cans and cases or in any way you wish put up. Sample free. W. S. Earls & Son, New Canton, Ill.

FOR SALE—Northern white, extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

HONEY—We sell the best. Comb in carriers of eight cases each; extracted, basswood, buckwheat, sweet clover, white clover and light amber. A. I. Root Co. of Chicago, 224 West Huron St., Chicago, Illinois.

CHOICE Michigan Clover Honey. New 60's. David Running, Filion, Michigan.

FOR SALE—Well ripened, extracted honey gathered from clover, carlot or otherwise. Will be pleased to submit sample on request. Also section or shallow frame comb honey in local shipment. Colorado Honey Producers' Association, Denver, Colo.

HONEY FOR SALE—Fine, white clover honey in 60-lb. cans. Write for prices.
A. G. Kuersten, Burlington, Iowa.

WHITE CLOVER extracted 7½c. Ten case lots 7c. Fancy white comb, $3.25, eight case carrier. A. J. Wilson, Hammond, N. Y.

WE OFFER SEVERAL GRADES and many different sized packages of glass, tin and paper boxes of comb and extract amber, buckwheat and finest clover honey and two grades of pure maple syrup and table syrup at no raise in prices. You may make and save $$$$ by dealing with the old reliable guaranteed house, The Griswold Honey Co., Madison, O., U. S. A.

HONEY—New crop clover, amber and buckwheat, both comb and extracted.
F. J. Smith, Castalia, Ohio.

FOR SALE—Bulk Comb and Extracted honey. Write for prices.
Fred E. Hyde, New Canton, Ill.

FOR SALE—White Clover comb honey.
Earl Baker, Genoa, Ill.

NORTHERN NEW YORK WHITE CLOVER, extracted and comb chunk honey.
F. L. Barber, Lowville, New York.

CHOICE SWEET CLOVER HONEY, New, 60's. Thos. Atkinson, Rt. 5, Omaha, Nebr.

HOWDY'S HONEY—White extracted and baker's grade. Offers wanted for carlots or less. Howard Potter, Jr., Ithaca, Mich.

FOR SALE—Black Hills' Fancy White Extracted Honey in 60-lb. cans. Write for prices. Ernest W. Fox, Fruitdale, S. Dakota.

WHITE AND LIGHT AMBER extracted honey in new fives and sixties.
D. H. Morris, Swanton, Ohio.

FOR SALE — Well ripened heavy Clover Honey, $3.00 a can. Large quantity special discount. M. Noack, 3942 Lexington St., Chicago, Ill.

HONEY AND BEESWAX WANTED

WANTED—HONEY and BEESWAX. Beekeepers will find it to their advantage to communicate with us. Please send samples, state quantity available and prices. CALIFORNIA HONEY COMPANY, Hamilton & Company, Agents, 108 W. Sixth Street, Los Angeles, California.

WANTED—Comb and extracted honey, state price and condition.
Earl M. Alexander, New Paris, Ohio.

WANTED—A car or less quantity of white honey in 60-lb. cans. Mail sample and quote lowest cash price for same. J. S. Bulkley, 816 Hazel St., Birmingham, Mich.

WANTED—Car lots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, Calif.

FOR SALE

BARGAIN LIST—Extractors, brushes, smokers, veils, box seats, feeders, section presses, shipping cases, bulletin boards, covers, excluders, frames, etc. Every item in good, usable condition. Priced to sell quickly. Reason for selling, no longer listed in our catalog. Stocked at various points. Write for free list. G. B. Lewis Company, Watertown, Wisconsin.

SPECIAL DISCOUNTS on all tin and glass honey containers.
Schultz Honey Company, Ripon, Wisconsin.

FOR SALE FOR CASH—270 colonies in double eight-frame hives in good condition. Located in excellent sweet clover and alfalfa district. Equipment for producing extracted honey. Guaranteed no disease. Mrs. Harvey Whitacre, Saratoga, Wyoming.

SUPPLIES

BEST QUALITY bee supplies, attractive prices, prompt shipment. Illustrated catalog on request. We take beeswax in trade for bee supplies. The Colorado Honey Producers' Association, Denver, Colo.

PORTER BEE ESCAPES save honey, money, avoid stings; faster most efficient. Sample 15c. R. & E. C. Porter, Lewistown, Ill.

DIFFERENT, that's all. Written and published for the instruction of beekeepers. 52 pages of breezy entertaining beekeeping comment each month. One year, $1.00; two years, $1.50. Sample, 3c stamp.
The Beekeepers Item, San Antonio, Texas.

SAVE queens. Safin cages now 15c. Ten for $1.00. Allen Latham, Norwichtown, Connecticut.

DISPLAY A STRAW BEEHIVE with honey at your roadside stand and see your honey sales increase. Write for particulars.
G. Korn, Berrien Springs, Mich.

PATENTED WIRE-BOUND BEEHIVE INSULATORS. Best for winter protection. Write—Standard Bee Specialty Co., Box 392-C, Eau Claire, Wis.

MISCELLANEOUS

PLANS FOR POULTRY HOUSES — All styles; 150 illustrations. Tells you the type to build for your particular locality. Secret of getting winter eggs, and copy of "Inland." Send 25c. Inland Poultry Journal, Spencer, Indiana.

MARBLEBOARD BINDER—For back copies of the American Bee Journal. Will hold two years. Keeps your magazines in shape for ready reference. Price only 75c, postpaid. American Bee Journal, Hamilton, Ill.

THE BEE WORLD—The leading bee journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy, post free, 12 cents stamps. Membership of the Club, including subscription to the paper, 10/6. The Apis Club, Brockhill, London Road, Camberley, Surrey, England.

HAVE YOU any Bee Journals or bee books published previous to 1900 you wish to dispose of? If so, send us a list. American Bee Journal, Hamilton, Ill.

Meetings and Events

(Continued from page 362)

The host, Mr. R. Meyers, gave a very interesting talk on "Beekeeping in California," stating methods used, honeyflow and source of crops.

Mr. C. Duax gave a short talk on "Queen Rearing."

Mrs. C. Duax brought the Honey Table to our attention and requested that our women folks bring in new recipes for the use of honey in baking.

At a special business meeting of the officers of our association held July 20th, it was moved (with the consent of the secretary) that the secretary's compensation of $ .50 per member per year be eliminated and that we have a special drive for membership, offering 6 months in local association and one year State affiliation for $1.00, with the result we received 16 new members and 6 renewals.

A smoker lighting contest was held and the new smoker awarded to the winner went to Mr. D. R. Stephens.

Our next meeting will be held September 9th, in the form of a tour of bee yards near Lemont, Illinois.

Respectfully submitted,
E. J. McCormick,
Secretary.

DeKalb-Kane Meeting

Carl H. Tudor, Secretary of the Association reports a live meeting at the home of Wm. Ritter at Pingrie Grove, Illinois on July 30.

The next meeting of the Association is scheduled for October 1 at the Carl H. Tudor home two miles south of Sycamore. We hope there will be a large attendance.

Wilson Heads Institute Honey Receivers

Professor H. F. Wilson, University Station, Madison, Wisconsin, has taken charge of the entire Honey Receivers Organization for the American Honey Institute. A list of the receivers is published each month in the bee papers. Please send the names of any new honey receivers to Professor Wilson in the future. Any one interested may address him at the address given.

Lewis Parks,
Chairman Finance Committee,
American Honey Institute.

Missouri Superintendent Announces A New Beekeeper

A card from Clay T. Davis, Superintendent of the Apiary Department of the Missouri State Fair, announces the birth of a 9-pound son. No name yet, he says. [Has a name now, we'll bet—Ed.] Another future beekeeper, if Clay T. has his way. Congratulations.

WANTED!

300 Dollar-a-Year Men

THREE HUNDRED BEEKEEPERS who will send one dollar each to the American Honey Institute on or before September 20th can make it possible for the very effective work on honey publicity to continue.

All other sources of income have become exhausted. Regular supporting members, consisting of the bee supply manufacturers, container manufacturers, honey packers, shippers of package bees and queens, and other regular contributors, have paid their share . . we cannot ask them to pay more.

Hundreds of prominent men and women in the food industry are now talking and writing about honey. Five years ago they were not even interested in honey; there was no National Honey Week; no coast-to-coast honey broadcasts . . only about one per cent of what is being done now through the stimulus of the American Honey Institute, to get people to eat more honey.

Has the beekeeper the time, patience, or money to advertise honey? He has not! The Institute is doing this job for him . . taking the load off his shoulders. The A. H. I. has given him a "lift" . . will he come through, with 299 others, by September 20th and give the Institute the "lift" it needs now to keep alive?

One bee supply manufacturer has spent over $15,000.00 to make the Institute possible; is one dollar each from 300 beekeepers asking too much?

Please mail money order to

AMERICAN HONEY INSTITUTE

417 North Few Street — Madison, Wisconsin

(This Space Donated by Dadant & Sons)

JUST A FEW MORE SOUVENIR QUEENS LEFT FOR FREE DISTRIBUTION

It has been a pleasure to deal out these queens, and we feel repaid in more than one way. Many of you already seem like close personal friends through the orders you have sent us in years past and gone.

The response to our advertising proves the American beekeepers are a wide-awake bunch; the Century of Progress Exposition at Chicago has been visited by a host of beekeepers from every corner of our country.

The "New Deal" is on, we look confidently toward the future. Play your part next year by systematic requeening this fall. Higher prices must be expected from now on, even for honey. We have kept faith with our customers by keeping the quality of our queens and bees up, despite the fact that prices have been hammered to unreasonable levels. Try some of our good fall reared queens, they are worth much more than we are asking for them.

Prices: 1, 35c; 3, $1.00; 12, $3.60. 100, $27.50.

JENSEN'S APIARIES, CRAWFORD, MISS.

Moore's Strain

Leather Colored Italian Queens
Superior Stock

50c each

World-wide reputation for honey-gathering, hardiness, gentleness, etc., since 1879. Safe arrival and satisfaction guaranteed.

J. P. Moore
MORGAN KENTUCKY

For Over 50 Years

BEEKEEPERS in many lands have been pleased with this most important tool in Beekeeping. Your Bingham Smoker is offered for sale by numerous dealers.

INSIST ON THE BEST

Manufacturers of a complete line of Honey Extractors, one for every requirement. Send for printed matter.

A. G. WOODMAN CO.
Grand Rapids, Mich.

SELECT
UNTESTED QUEENS
30c ea.

"St. Romain's Honey Girl" Italian Queens are prolific, their bees are gentle, thrifty and hardy. The result of years of selective breeding.

I will take your beeswax in trade for queens, for immediate delivery, for delivery next Spring, for deposit on next year's package bee order. Write.

J. Lloyd St. Romain
"ST. ROMAIN'S HONEY GIRL" APIARIES
Hamburg, Louisiana

We are Cash Buyers of Honey and Beeswax
Submit samples and best prices, freight prepaid Cincinnati
We also furnish cans and cases.
The Fred. W. Muth Co. PEARL & WALNUT CINCINNATI, O.

Yancey Hustler Queens
NONE BETTER
40c each; 3 for $1.00. $3.60 per doz.
Quick service and satisfaction.
Caney Valley Apiaries, Bay City, Tex.

News Notes of American Honey Institute

State Associations Respond to President Root's Letter

In reply to President Root's S. O. S. letter, the replies from the Presidents and Secretaries of state beekeepers' associations have been very encouraging. Some of the letters actually carried checks. Many individuals also responded with from one to five dollars. There is now enough on hand to carry the Institue through August and it is hoped that enough more will come in by then to carry on through September.

Agricultural Papers Cooperate

Honey is being suggested by food writers in the agricultural papers as being especially fine for summer months. Not more than three years ago honey was recommended only for cool and cold weather. The Institute has always held that honey is an all-year round food and so it is very encouraging to have this change so noticeable. In the June 10 Wisconsin Agriculturist and Farmer is "Cooking the Honey Way for Economy" with six honey recipes and basic suggestions for its use. Circulation of this paper, 191,831.

In July 8 issue of Pacific Rural Free Press is "Moons and Recipes of Honey" with five honey recipes and the association of honey with honeymoons. Circulation, over 200,000. The Farmer's Wife, for August, has "Try It With Honey" with six recipes and suggestions for use. Circulation over 1,000,000. Other papers are becoming interested. Some often mention honey—The Farmers' Exchange, Modern Living, Bakers' Helper. The latter is especially valuable to beekeepers as it gives recipes frequently and helps for bakers in the use of honey. Some beekeepers are advertising their honey to bakers through these valuable papers. It is a very good idea. Bakers' Helper also offers to put the buyer in touch with sources of honey through its Readers' Service Department.

Betty Crocker Includes Honey in "Bisquick Creations"

In her 101 Delicious Bisquick creations, a collection of ways to use this new flour, are several honey recipes. Note especially Honey Apricot Shortcake, with Honey Meringue Topping, and the note that this topping is also delicious on hot gingerbread.

California Cooking School Includes Honey

On three different days, the July cooking school at Sacramento demonstrated honey in interesting recipes. Mrs. H. M. Krebs, wife of California's state inspector, gave a talk on honey before the school.

Wintering on Soft Candy

Late in November I bought 15 colonies some of which were short of stores. I moved them home 70 miles the first week in December. Then came a spell of sub-zero weather during which I attended the Wisconsin State Beekeepers' Convention at Madison. My problem was how to feed these bees for outdoor wintering when I had no combs of honey and it was too cold to feed a liquid. I inquired about a candy of Mr. E. C. Alfonsus, who told me to make a soft candy by mixing powdered sugar and honey. My first efforts at hand-mixing were discouraging but the bread mixer of former years proved the ideal machine. The sugar was put in first, honey poured on it and the dough made as stiff as possible. Twenty-five pounds of sugar mixed with ten pounds of honey. A stiffer dough would keep its shape better. The dough was rolled by hand into cylinders an inch or less in diameter which were laid across the frames and covered with blankets. On December 14th the bees were packed in leaves and waterproof paper.

One colony was seen by entrance examination to be starving on April 9th, and was given more candy. Another colony which had almost no honey was given about 10 pounds in December. The candy had all been removed from the top of the frames, so it was also given more. Today, May 6th, both these colonies are in fine shape, the latter being especially strong and active.

I have had no previous experience wintering with candy and do not believe I would substitute it for honey. But I fed it in the coldest weather, the bees took every particle of it, and all colonies wintered fine. I cannot see that those having honey only wintered any better than those having part sugar. Ivan Whiting,
Illinois.

America's Two Oldest Bee Books and Their Origin

By H. F. Wilson
Wisconsin

So far as any record can be found, America's oldest bee book was printed in 1792, under the title, "A Complete Guide for the Management of Bees, Through the Year," by a Farmer of Massachusetts. It was illustrated with one copper plate, although

the copper plate is missing in the copy of this work found in the Miller Memorial Library. It was printed at Worchester, Massachusetts, by Isaiah and Leonard Worchester, for Isiah Thomas. This little book contains 46 pages, 4 inches wide and 6 inches high. Following the title page is an explanation of the plate and the table of contents, after which the following advertisement is included: "It is not the design of the writer of the following treatise to enter into any investigation of the culture of bees, which may be considered merely as wonderful and curious, but to give claim, easy and useful directions for their management, which will be found more advantageous than the common, long practised, and cruel method of destroying them for the purpose of obtaining their honey. The experience and observations, the test of every improvement, furnish ample proof of the expediency of managing bees according to the following directions. And while it increases the profit of the farmer, his delicious repast is not imbittered, by the reflection that he has not only robbed the industrious bee of its treasures, but also its life."

The substance of the text of this little book is quite evidently taken from Daniel Wildman's complete guide for the management of bees throughout the year. Pages 37 to 40 contain a letter from a Mr. Cris John on bee hunting in America. Pages 40 to 46 contain a note from the Encyclopedia on the economy, instincts, etc., of the honeybee. Pages 45 to 46 contain a similar note on the Sting of the Honey Bee.

* * *

The second oldest American bee book was printed under the title of "A Short History of Bees," in Two Parts — I. The Natural History of Bees, with Directions for the Management of them—an Account of their Enemies, etc.—from Reaumur, etc. II. An Enigmatical Account of a Neighbouring Nation—Their Queen, her Palaces, Attendants, etc., by J. Johnson, 147 Market St., Philadelphia, 1803. 90 pp.

The text is an exact copy of a similar work of the same title printed for E. Newbery in London, in 1800. (No author given.)

The page numbers for the two works do not correspond as the text is arranged more closely in the American work. Following the 52nd page, the second part of the American work begins with the 53rd page, and continues to the 82nd page. Pages 83 to 87 contain a poem under the title "The Bees." Pages 88 to 90 contain a "Key to the Fabulous History" and is a glossary of terms used in the text.

CITRONELLE QUEENS & BEES

Requeen with the finest genuine 3-banded Italians.

1 to 50 . . . 30c ea.
50 to 100 . . 25c ea.
100 or over . . 20c ea.

Prepaid to you—Prompt shipments.

Citronelle Bee Co., Citronelle, Ala.

THE GENTLEST BEES UNDER THE SUN

Long Lived—Honey Makers

You will never know how good they are until you try them. Bred from the best imported MOUNTAIN GREY CAUCASIANS.

PRICES: 50c EACH FOR SIX OR MORE
ONE TO FIVE, 60c EACH

Ask for prices on larger numbers.

The Caucasian Bee Co. :: Repton, Alabama

"Dadant System of Beekeeping"
By C. P. Dadant
Pointers on the use of the large hive. Gives results of years of actual experience by the Dadants. 120 pages, illustrated. Cloth bound. Price $1.00.
AMERICAN BEE JOURNAL .·. HAMILTON, ILLINOIS

September Queens

September is the ideal month to requeen for the queens will be on the job early in the spring and build the colony up to great strength for the honeyflow. Such colonies are practically non-swarming. By thirty years of careful breeding we have increased the size of our bees. This enables them to carry larger loads. They fly great distances for nectar. They are exceedingly gentle and of a beautiful yellow color and rob the least of any bees I ever saw. We can ship promptly.

Prices: One, $1.00; Five, $4.75; Ten, $9.00; One hundred, $75.00. Tested, $2.00. Breeders with half pound of bees, service guaranteed through the season of 1934, $7.50. We accept HONEY in EXCHANGE and will allow ten queens for each case of 120 pounds of fine white extracted honey, freight prepaid.

Our book "About Bees" is a brief treatise on bees and is free.

JAY SMITH, Route 3, VINCENNES, INDIANA

WANTED - HONEY

CARLOADS OR LESS CARLOAD QUANTITIES

White or Extra Light Amber Grading

Send us samples and best price freight allowed New York.

HONEY PACKERS, Inc.
230 Park Avenue New York City

The POSTSCRIPT

GOSSIP ABOUT THE OFFICE IN THE MAKING OF THE MAGAZINE

J. C. Elliott, of Columbus, Kansas, writes to suggest that the May honeyflow at Lexington, Missouri, mentioned in the July Postscript may have been from persimmon. He states that persimmon is one of his main crops and this year the flow started on May 20 and some colonies gathered as much as 75 pounds surplus. He states that it comes so early that the bees are not yet strong enough to make the most of it. Now if persimmon trees are common in the vicinity of Lexington that may be the answer.

— : —

A Tennessee beekeeper writes to inquire about a cotton location. Since cotton is grown in large acreage and has a long blooming season he anticipates good returns from such a crop. After traveling many hundreds of miles through the cotton belt I have found practical agreement among the beekeepers that they get good honey crops from cotton on the rich black lands and very little from it on sandy soils. Also it often yields on the river bottoms where it fails on the hills. One who expects to depend upon cotton for his bees should carefully investigate soil conditions when choosing a location.

— : —

For some reason much of my correspondence has to do with honey plants and beekeeping locations. Perhaps it is because I have given so much attention to those subjects for twenty-five years. In that time I have discovered that very little is really know about our honey plants. So many do well in one location only to prove disappointing under other conditions that one must be very careful in making recommendations for regions with which he is not fully acquainted.

— : —

Occasionally I hear from some beekeeper who wishes to move a little further south. Generally speaking they will find poorer honey crops as they move southward. Nature compensates for the shorter season in the North by speeding up growth of every kind. The honeyflows are accordingly more intense in the North and more of the crop is left for surplus. There are plenty of poor locations in the northern states, however.

— : —

The question is asked whether it is better to winter bees in Dadant hives in one story or two. Personally, I have usually wintered in one story hives with the large hives and two story when using Langstroth hives.

— : —

A California correspondent takes a crack at the name of my home town, Atlantic, Iowa. Rev. Bedinger, of San Diego, writes "allow me to suggest that for a quiet summer vacation 'Pacific' might be better than 'Atlantic' but every man to his taste." Next time I go to California I propose to call on that preacher and tell him some of the advantages which Iowa has over California.

— : —

Some of my correspondents manifest an interest in the cultivation of flowers. To such I would recommend "Home Flower Growing" by E. C. Voltz. Mr. Voltz is professor of floriculture at Iowa State College. He has prepared a volume well suited to the needs of the everyday flower lover who is not versed in scientific nomenclature. I am more of a naturalist than a gardener and my plants are largely grown in nature's way with thousands of them naturalized in the woods.

— : —

In 1925, as editor of Wallace's Farmer, Henry Wallace is quoted as having written, "Within five or ten years the world will be facing a food shortage." He stated further that by 1960 the world would be fighting for food. Now as Secretary of Agriculture, he is so concerned about the surplus that he wants to plow under part of the cotton crop and levy a tax to pay the grain growers to let their land lie idle. One cannot but wonder whether he is any nearer right now than on the former occasion.

With reference to the contention of J. F. Diemer that queen cells opened at the side are destroyed by virgin queens and not by workers, Huber observed such action on the part of virgins. As far as we are able to find he did not differ with Diemer. He stated that the workers remained passive while the virgin made the opening, but continued to enlarge it after the virgin had left the cell. He stated that the workers carried out the nymph after the cell was opened, even though it had not been injured.

Diemer's statement that the bees never destroy a queen cell unless the inmate is dead leaves me doubtful. I wonder whether he would not qualify that statement somewhat on further consideration.

— : —

Another wedding in the family brings us a third daughter-in-law. Melvin is the last of the boys to find a wife and things are looking up here at the old farm.

— : —

On page 347, L. F. Childers advocates removing old combs in an effort to clean up the hive. I do not believe that an old comb is any more dangerous than a new one if it is a good comb. We often find disease as bad in new combs as in old ones and where disease is present combs must be melted up regardless of age.

— : —

A Minnesota reader asks for a comparison of the value of the services of the bees in pollination of crops to the value of honey and wax secured. While it would be impossible to make an accurate estimate, it is easy to see that the farmer gets many times the value which the beeman gets. There are plenty of cases where a crop of apples may be credited to the presence of the bees. The value of the fruit is a hundred times greater than the value of the honey the bees store from the orchard.

— : —

A New Yorker inquires whether it is possible to succeed with Hubam clover by sowing it broadcast on his pasture. He has in mind to let it seed itself from year to year. I had just that plan in mind except that I first sowed it with oats as a field crop and later used it for pasture. It worked well the first season and not so badly the second but it soon failed to reseed successfully. There were too many bare spots where the cattle tramped it out or grazed it too short. I have long wished that someone would find a perennial sweet clover. That would solve the problem of permanent pasture for live stock and at the same time for the bees.

— : —

We Americans are a hysterical people. Instead of thinking things through clearly, we stampede first in one direction and then another like a flock of sheep. In my home county during the war a prominent citizen was hailed before the council of defense because he said that America should not have entered the war. He stood his ground and told the council that we were loaning foreign countries uncounted millions which would never be paid and that inside of twenty years we would be trying every artifice to secure the return of our money. Yet they wanted to boil him in oil for his opinion. Now the same sort of hysteria is forcing many small business concerns to the verge of bankruptcy by insisting on hours and wage scales which the returns from the business will not support. It is hard to see how it will help anybody to "bust" the small business man who is having hard enough time to get along already.

— : —

Acute susceptibility to bee stings appears to be more common than we have realized. Bob Dadant, (fourth generation of the bee line) had a very painful experience recently and was warned by the doctor that he is one of those sensitive persons who takes great risks in being stung. Some persons can never hope to become immune to stings and the occasional fatal effect indicates how serious a sting may be. To most of us a dozen stings is a mere trifle and fifty is not a serious matter.

FRANK C. PELLETT.

The
AMERICAN BEE JOURNAL

Established by Samuel Wagner in 1861

COPYRIGHT 1933, C. P. DADANT

The Oldest Bee Journal in the English Language

OCTOBER, 1933

Published Monthly at Hamilton, Ill.

Entered as second-class matter at the Post-office at Hamilton, Illinois. C. P. Dadant, Editor; Frank C. Pellett, Field Editor; G. H. Cale, Associate Editor; Maurice G. Dadant, Business Manager.

CONTENTS

Proposed Marketing Agreement for Package Bees and Queens ... 379
The Human Puzzle—*Who Is He?* ... 381
Editorial ... 382
An Adventure With Bees—*L. T. Floyd* ... 384
New Rates on Honey in Glass—*Kennith Hawkins* ... 385
Test of Caucasian and Italian Honeybees —*C. L. Corkins* ... 386
One Cause of Variability in Bees—*H. S. Rogers* ... 388
Bees at a High Altitude—*John Ronayne* ... 388
Wintering After Nature's Fashion —*Herbert Morehouse* ... 389
Search for a Method of Producing Honey in the Poisonous Buckeye Area in California —*E. L. Sechrist, F. E. Todd and G. H. Vansell* ... 390
Honey and Pollen for Hay Fever—*J. W. Powell* ... 391
The Beekeepers' Convention—*H. E. Coffey* ... 392
A Late Blooming Bee Plant—*C. W. Wood* ... 393
Now This Is Joe's Idea—*J. L. Baker* ... 394
Requeening Cross Bees—*B. Blackbourn* ... 395
Wintering Bees at a High Altitude—*C. R. Walker* ... 396
Winter Apiary of W. H. Turnbull and Son ... 397
Carniolans in Faraway Australia—*G. H. Pfeiffer* ... 397
What Is Wrong With Honey—*Antonios Petropoulos* 398
Honey Labels and Repeat Sales—*Morehouse Brothers* 399
From the Little Blue Kitchen—*Lida Keck-Wiggins* ... 400
All Around the Bee Yard—*G. H. Cale* ... 401
The Editor's Answers ... 402
Meetings and Events ... 403
That Question of Taste and Color—*Thomas S. Davis* 405
Honey Exhibits at Washington Fair—*C. M. Litteljohn* 406
Crop and Market Report—*M. G. Dadant* ... 407
Big Hives Best in the Long Run—*Walter H. Hull* ... 410
How Big Must the Brood Nest Be—*R. B. Manley* ... 410
Postscript—*Frank C. Pellett* ... 412

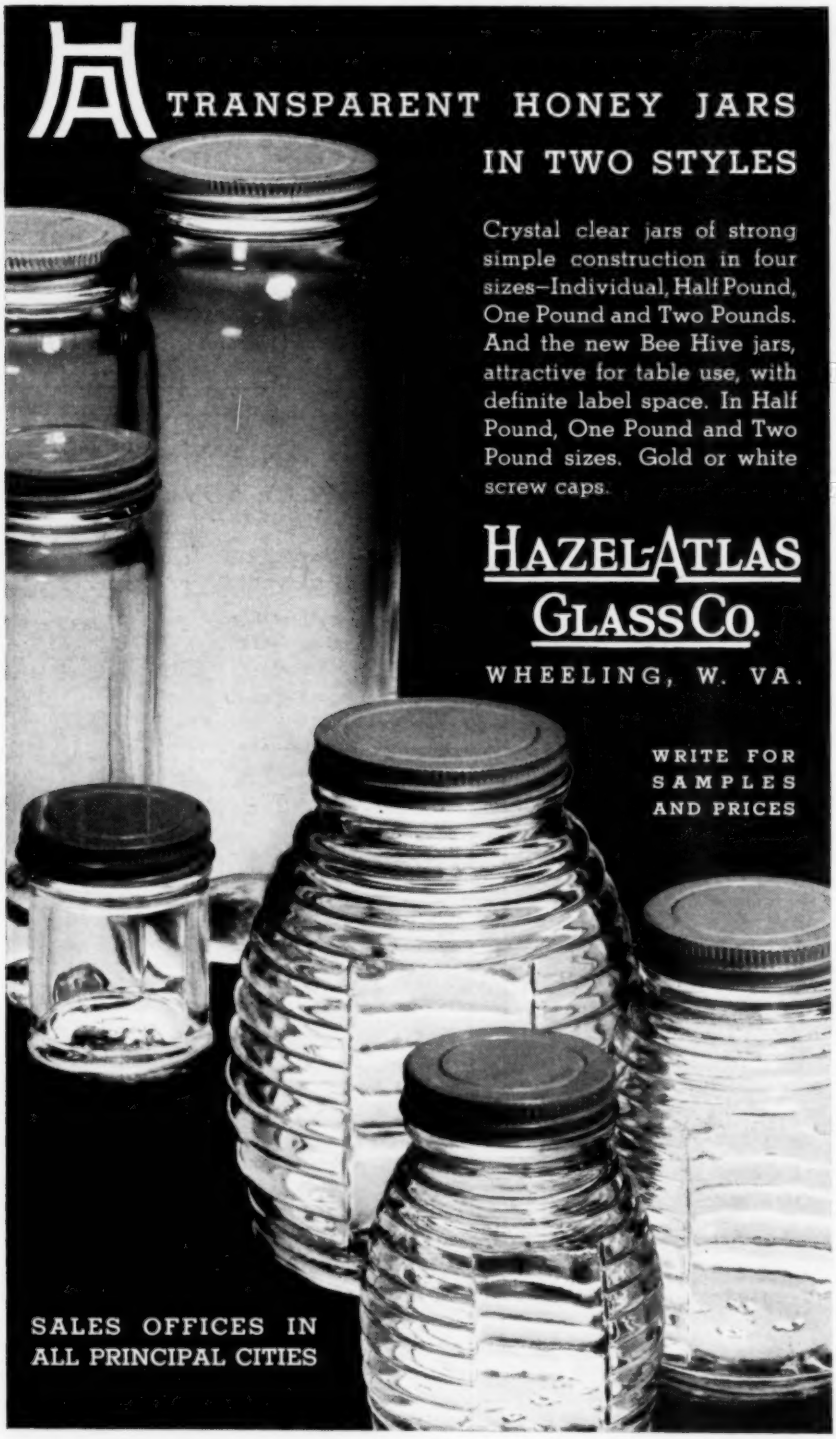
INDEX TO DISPLAY ADVERTISERS

American Bee Journal—376, 378, 406, 410, 411, 414.
American Honey Institute—375, 414.
Beekeepers Item—410.
Berry Co., M. C.—413.
Calvert Apiaries—414.
Caney Valley Apiaries—406.
Caucasian Apiaries—406.
Citronelle Bee Co.—413.
Crowville Apiaries—406.
Forehand & Sons, W. J.—406.
Garon Bee Co.—413.
Great Northern Railway—415.
Guertin, Edwin H.—407.
Gulf Coast Bee Co.—411.
Hazel-Atlas Glass Co.—378.
Honey Packers, Inc.—413.
Knight, Jasper—374.
Lotz Co., Aug.—415.
Louden Machinery Co.—414.
Marshfield Mfg. Co.—415.
Merrill Bee Co.—410.
Moore, J. P.—414.
Muth Co., F. W.—406, 407, 410, 411, 413.
Root Co., A. I. (Chicago)—415.
Root Co., A. I. (Iowa)—374.
Root Co., A. I. (Ohio)—Back Cover.
St. Romaine's, J. Lloyd—406.
Standard Churn Co.—374.
Stover Apiaries—375.
Taylor Apiaries—410.
Weaver & Bro., Roy S.—411.
Williams, P. M.—414.
Woodman Co., A. G.—413.
York Bee Co.—413.

OUR COVER PICTURE

The nice photo of the kiddies was sent to us by Mrs. Benjamin Neilson of Aurora, Nebraska. What could we have chosen any better for the month of October?

In the United States and Mexico, $1.00 per year; three years, $1.50. In Canada add 50c per year customs duty. Other foreign countries, postage 25 cents extra per year. Subscription stopped at expiration date on wrapper.


TRANSPARENT HONEY JARS
IN TWO STYLES
Crystal clear jars of strong simple construction in four sizes—Individual, Half Pound, One Pound and Two Pounds. And the new Bee Hive jars, attractive for table use, with definite label space. In Half Pound, One Pound and Two Pound sizes. Gold or white screw caps.
HAZEL-ATLAS GLASS CO.
WHEELING, W. VA.
WRITE FOR SAMPLES AND PRICES
SALES OFFICES IN ALL PRINCIPAL CITIES

Attractive New Labels for the New Hazel-Atlas Beehive Jars

For the new beehive jars you will want labels which will fit exactly into the label space made in the jar. We have them in three sizes, 8-oz., 16-oz., and 32-oz. The price is $2.50 for 500, which is the least number we print of each size. You have a choice of green or orange.

Write—

American Bee Journal :: Hamilton, Illinois

Bee Books

of every Description

Here is a list of bee books. Get one or two for winter reading, for Holiday or anniversary gifts. All prices as listed are postpaid.

Anatomy & Physiology of the Honeybee—Snodgrass	$3.50
Our Backdoor Neighbors—Pellett	1.50
Beekeeping—Phillips	4.00
Beekeeping New & Old—Hempshall	7.50
Bee People—Morley	1.50
Bee Anatomy—A. D. Betts	1.25
Bee Master of Warrilow—Edwardes	2.00
How to Keep Bees for Profit—Lyon	1.00
Bees & Beekeeping—Cheshire—2 vol.	6.00
Beginners Bee Book—Pellett	1.50
Birds of the Wild—Pellett	1.75
Manual of the Apiary—Cook	1.20
50 Years Among the Bees—Dr. Miller	1.00
Honey Way Menus—Fischer	.50
Flower & The Bee—Lovell	2.00
Honey Bees and Fairy Dust—Phillips	2.00
Honey Plants of N. America—Lovell	1.50
How to Keep Bees—Comstock	1.00
How to Succeed With Bees—Hawkins	.59
Quebec Internat. Bee Report	.50
Lore of the Honeybee—Edwardes	3.50
Law of the Honeybee—Campbell	1.00
Money in Bees in Australia—Rayment	2.00
Mystery of the Hive—Evrard	2.50
Pearce Method of Beekeeping	.50
Productive Beekeeping—Pellett	3.00
Queen Rearing Simplified—Smith	1.25
Romance of the Hive—Pellett	2.00
A.B.C. & X.Y.Z. of Bee Culture—Root	2.00
Practical Tomato Culture—Pellett	1.50
L'Apiculture Intensive et L'Elevage des Reines—Maisonneuve	2.50
Unsere Bienen—Ludwig	3.60
Wilder System of Bee Culture	.50
Following the Bee Line—Morse	1.00
Bee Primer—C. P. Dadant	.15
American Honey Plants—Pellett	3.00
Beekeeping in the South—Hawkins	1.00
Dadant System of Beekeeping—Dadant. English, French Spanish, Italian or Russian	1.00
Controlled Mating of Queens—Watson	1.00
First Lessons in Beekeeping—Dadant. English & Spanish	1.00
The Honeybee—Langstroth & Dadant. English, French Spanish, Italian, Russian, or Polish	2.00
New Observations on Bees—Huber	3.00
Outapiaries—Dadant	1.00
Practical Queen Rearing—Pellett	1.00
Scientific Queen Rearing—Doolittle	.50
Thousand Answers to Beekeeping Questions—Miller	1.25

American Bee Journal
Hamilton, Illinois